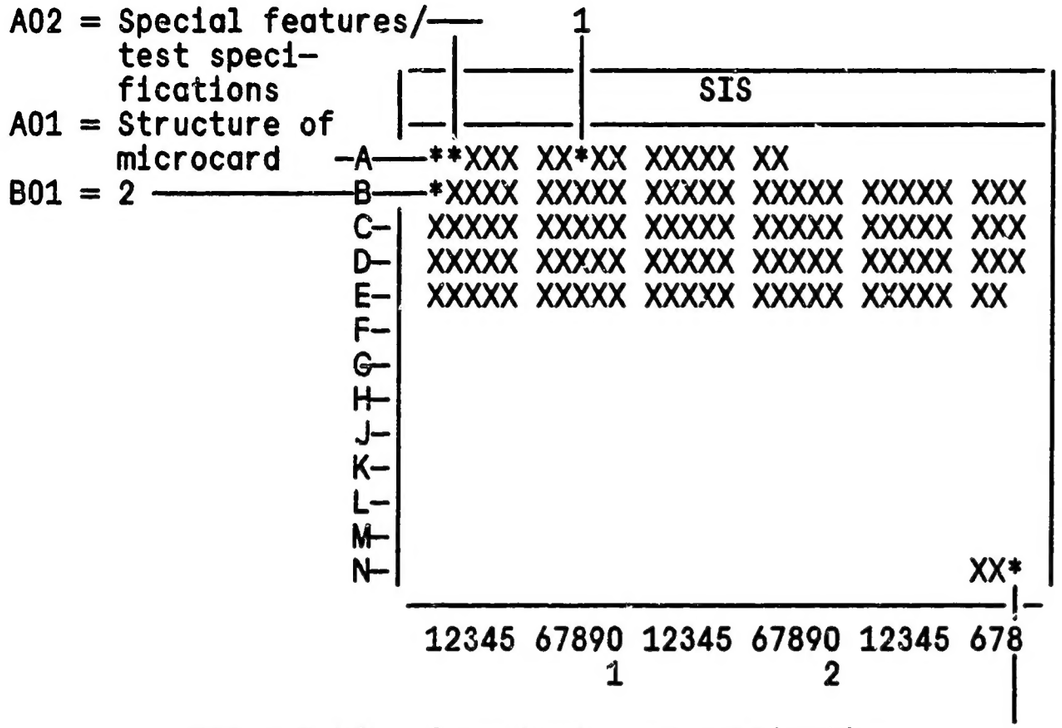
STRUCTURE OF THE MICROCARD



N28 = Table of contents and publication information
1 = Tools and devices
2 = Complete instructions, divided into test steps (no references)

a. Read from left to right.

b. Title of micropicture (appears on each coordinate).

E16	Product/component/test step	

Coordinate

c. Limits of section

==>	<==>	<==	=> <=
Beginning	Mid-section	End	One-page section

A01	—	=> <=

SPECIAL FEATURES

These instructions describe the repairing of series RQ..PA..K governors.

Repairs to the fuel-injection pump are to be carried out in accordance with the respective instructions.

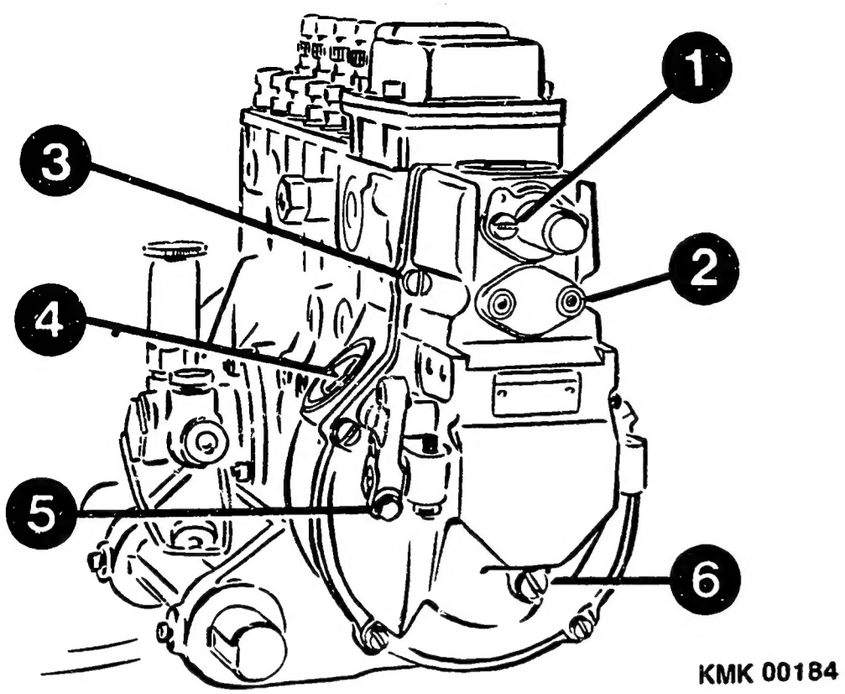
TEST SPECIFICATIONS

Axial clearance of coupling pin: 0.5 ... 1.0 mm

Pre-setting dimension between flyweight threaded pin and round nut: 1.0 mm

Idle stage	Sliding-sleeve position
5.4 ... 5.6 mm	with 14.7 ... 15.7 mm CRT

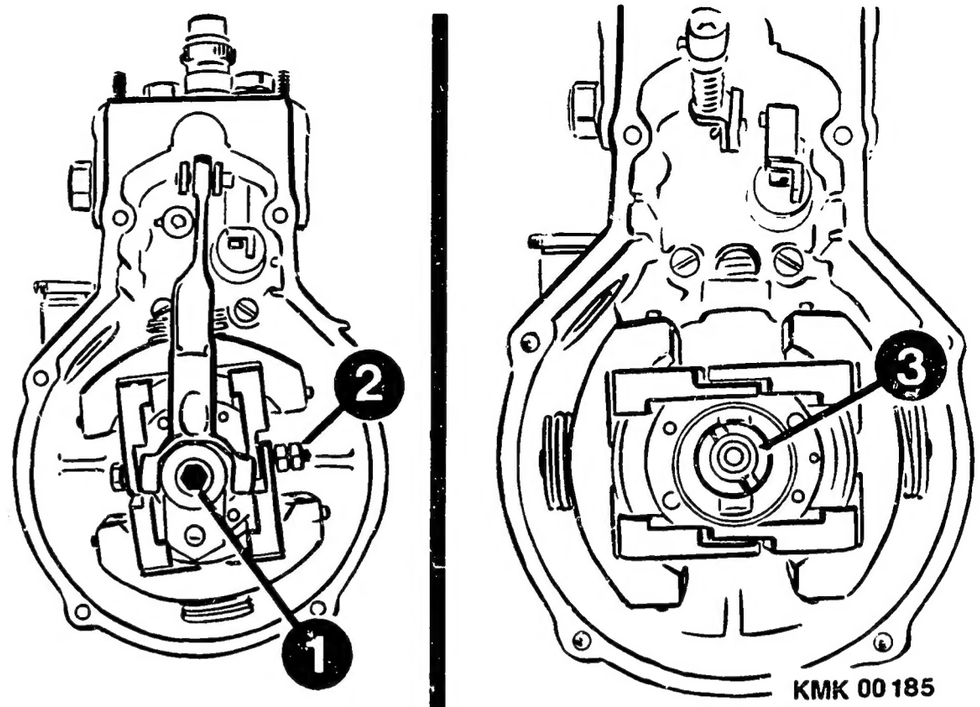
A02	—	=> <=



KMK 00184

TIGHTENING TORQUES

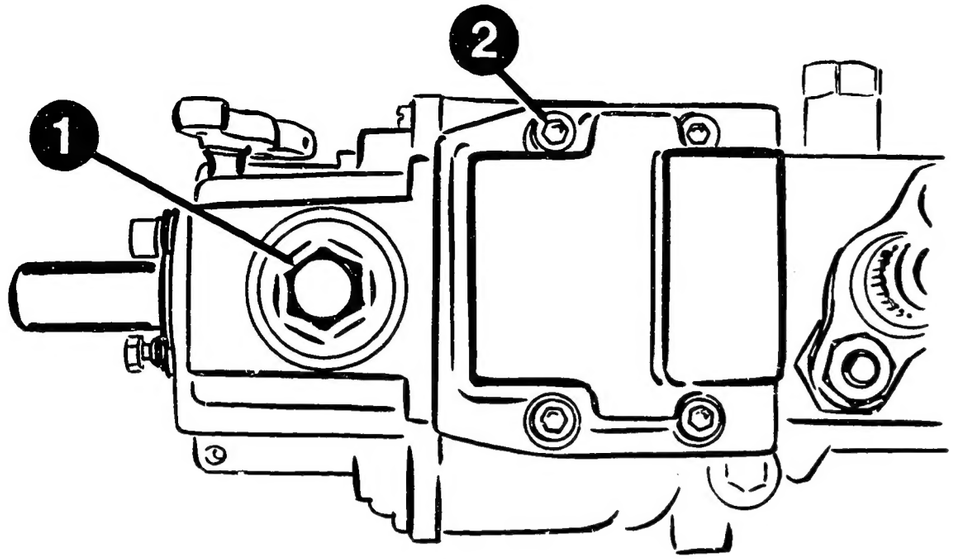
1 = Fillister-head screw	4 ...	6 Nm
Break-off screw	2 ...	3 Nm
2 = Hexagon-socket-head cap screw	7 ...	9 Nm
3 = Fillister-head screw	7 ...	9 Nm
4 = Screw plug	30 ...	40 Nm
5 = Control-lever screw	11 ...	13 Nm
6 = Guide pin	20 ...	25 Nm (With Loctite)



KMK 00185

TIGHTENING TORQUES (CONTINUED)

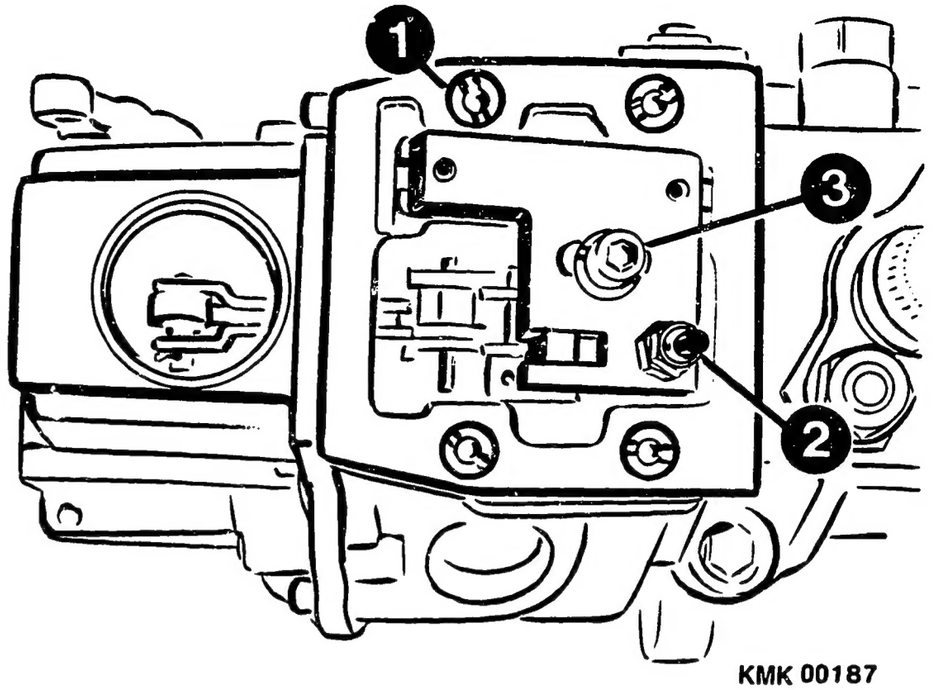
1 = Micro-encapsulated screw	4 ...	6 Nm
2 = Hexagon nut	6 ...	8 Nm
3 = Round nut	65 ...	75 Nm



KMK 00186

TIGHTENING TORQUES (CONTINUED)

1 = Screw plug	30 ...	40 Nm
2 = Hexagon-socket-head cap screw	5 ...	7 Nm



KMK 00187

TIGHTENING TORQUES (CONTINUED)

1 = Threaded sleeve	4 ...	6 Nm
2 = Hexagon nut	6 ...	8 Nm
3 = Hexagon-socket-head cap screw	5 ...	7 Nm

TOOLS AND FIXTURES

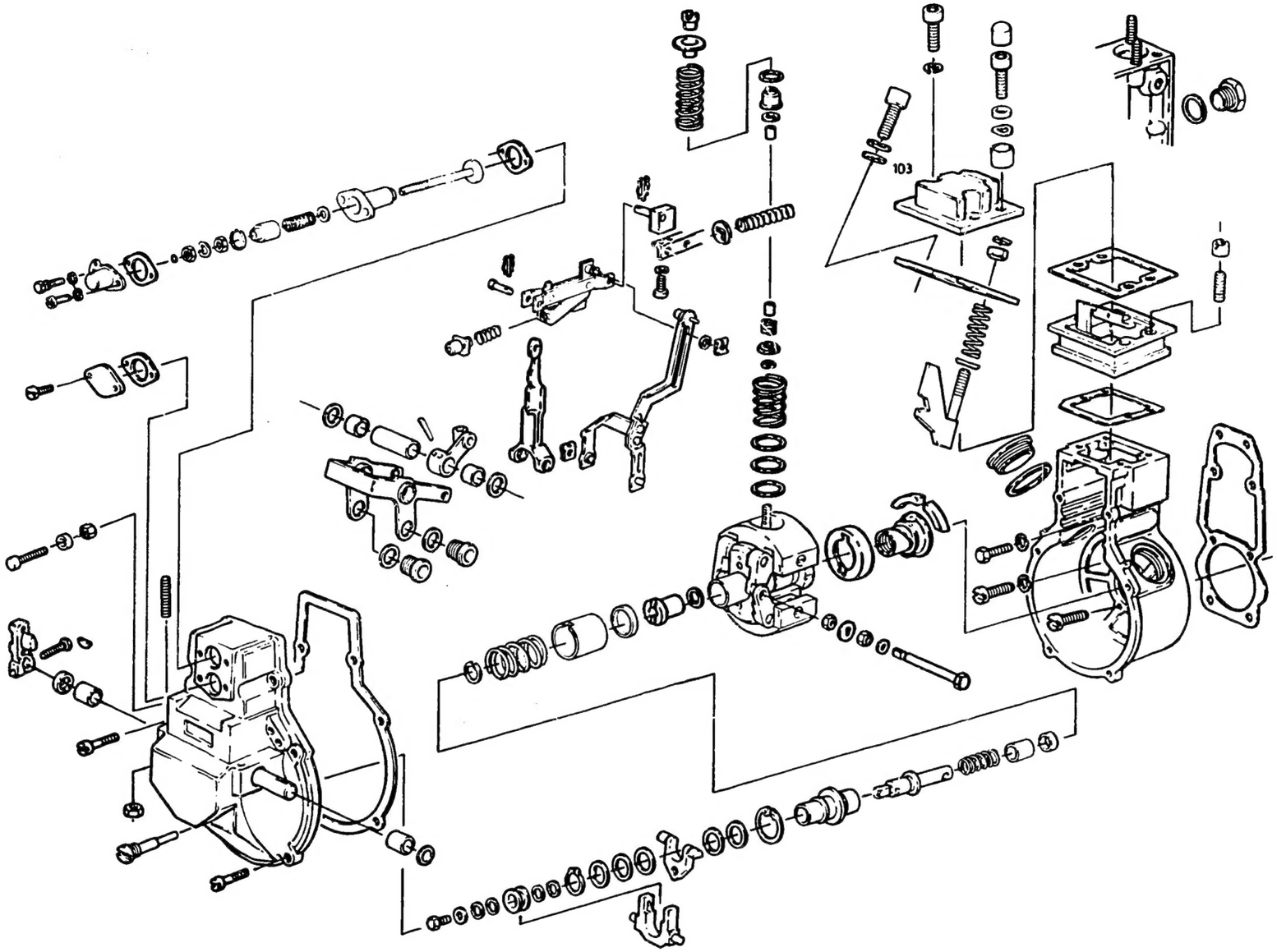
Designation	Part number	Application
Puller	KDEP 2886	Detaching governor assembly from camshaft
Blade-type socket wrench	KDEP 2988	Loosen. round nut of govern. assembly
Measuring tool	KDEP 2984	Measuring and adjust.torque-control travel
Dial gauge	1 687 233 011	Measuring and adjust.torque-control travel
Measur.frame	1 682 329 083	Checking and adjusting universal-joint and guide-roller dimens.
Blocking sleeves	KDEP 1586	Checking and adjusting vibrational play of flyweights.
Installation jig	KDEP 1637	Dismantling and assembling govern.assemb.

TOOLS AND FIXTURES (continued)

Designation	Part number	Application
Pin-type socket wrench	KDEP 2989	Adjust.initial tension of govern. spring
Pressing-in and pressing-out mandrel	KDEP 1584	Press. out and press.in supp. for governor setting shaft
Taper reamer with taper 1:50 2.5 mm	Commerc.avail.	Pre-reaming holes in control-lever shaft
Taper reamer with taper 1:50 3 mm	Commerc.avail.	Finish-reaming holes in control-lever shaft

Lubricants:

Sealant and adhesive e.g. Loctite CVV (blue)	Commerc.avail.		
Special gear grease Ft v 27	Tube	50 g	5 700 052 055
	Tube	250 g	5 700 052 025
Hylomar Sealant VS 9844-KK	Tube	25 g	5 927 350 002
Sealing varnish yellow Kk 25 v 9		30 g	5 703 245 003



KMK 00300

Exploded view RQ..PA..K governor

GENERAL

* Always renew worn or damaged individual components as well as the sealing elements.

* If the fuel-injection pump components are to be stored for a lengthy period, they should be covered and protected against rusting.

* Leak test on governor chamber:

  In order to preclude the possibility of skin irritation when coming into contact with leak-test bath, apply protective cream to hands before starting and wash hands in soap and water upon completion.
  If possible, wear rubber gloves.

GENERAL (continued)

* Cleaning of parts

  Wash out parts in a commercially available cleaning agent such as chlorothene NU which is not readily flammable. Then blow out with compressed air.

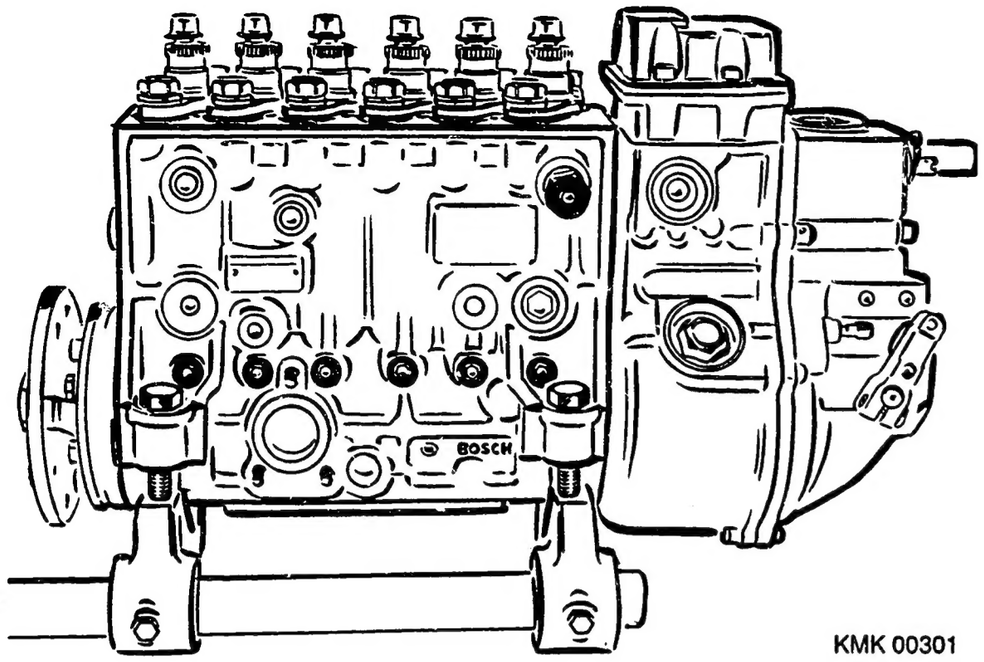
* Safety regulations for handling flammable liquids.

  In Germany:
  Order governing Work involving Flammable Liquids (Vbf) as published by Ministry of Labor (BmA).
  Safety regulations for handling chlorinated hydrocarbons

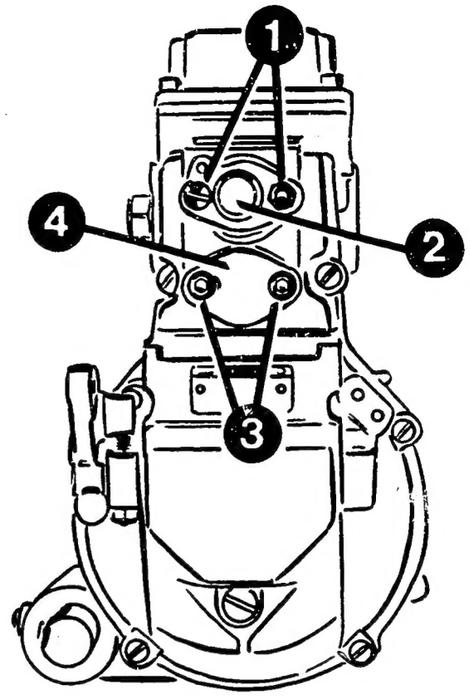
for companies	ZH 1/222
for employees	ZH 1/119

  as published by Gewerbliche Berufsgenossenschaften (Zentralverband für Unfallschutz und Arbeitsmedizin) Langwartweg 103, 5300 Bonn 5, Germany.

  In other countries, attention is to be paid to the corresponding local regulations.



KMK 00301



KMK 00302

RQ..K GOVERNOR DISASSEMBLY

Prerequisites:

* Clamp fuel-injection pump depending on series and type of attachment (pay attention to repair instructions).

* If applicable, attached to drive components (multi-plate clutch, toothed gear or timing device) are to be removed using corresponding KDEP or suitable commercially available tools.

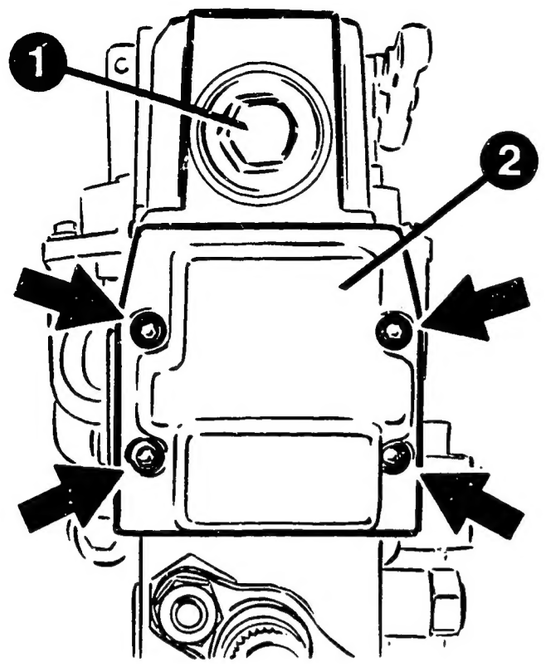
* Attach drive coupling in line with taper diameter of camshaft and tighten.

1 = Fastening screws, control-rod stop
2 = Control-rod stop
3 = Fastening screws, closing cover
4 = Closing cover

Unscrew fastening screws and remove control-rod stop for starting-fuel-delivery limitation.

Unscrew fastening screws and remove closing cover.

Note:
Make sure enough containers are available for accommodating individual components.

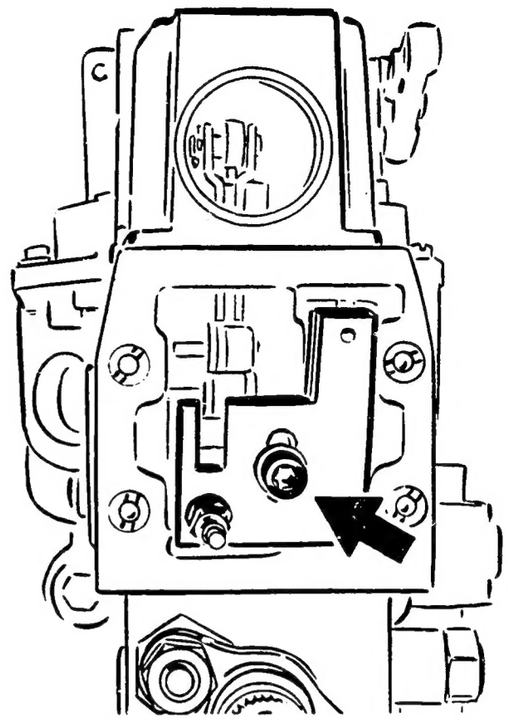


KMK 00303

1 = Screw plug
2 = Closing cover

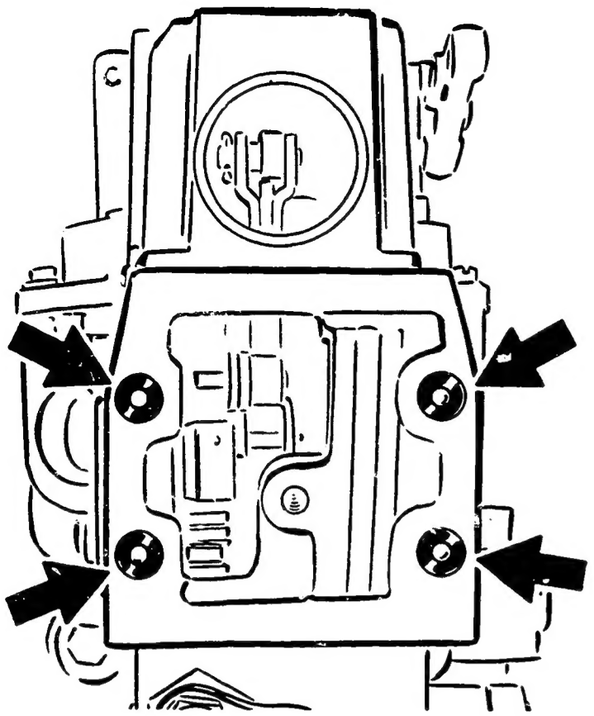
Unscrew screw plug.

Remove closing cover by unscrewing fastening screws (arrows).



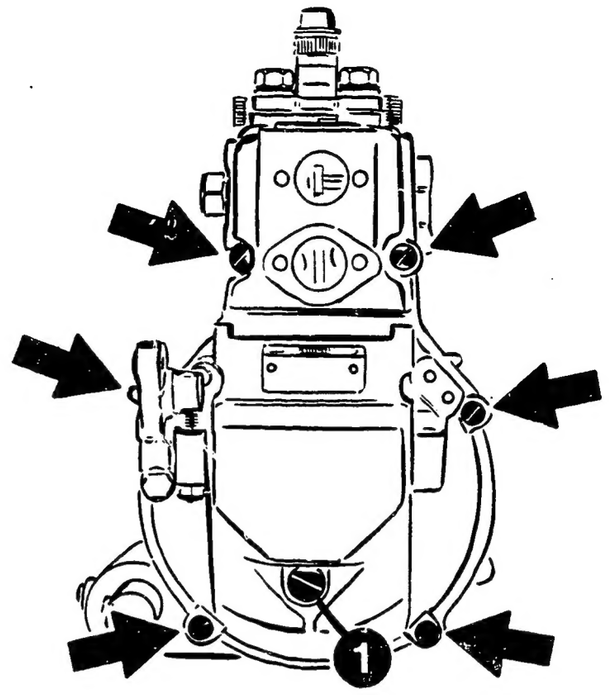
KMK 00304

Unscrew hexagon-socket-head cap screw (arrow) and remove full-load stop.



KMK 00305

Remove intermediate housing by unscrewing threaded sleeves (arrow) from governor housing.



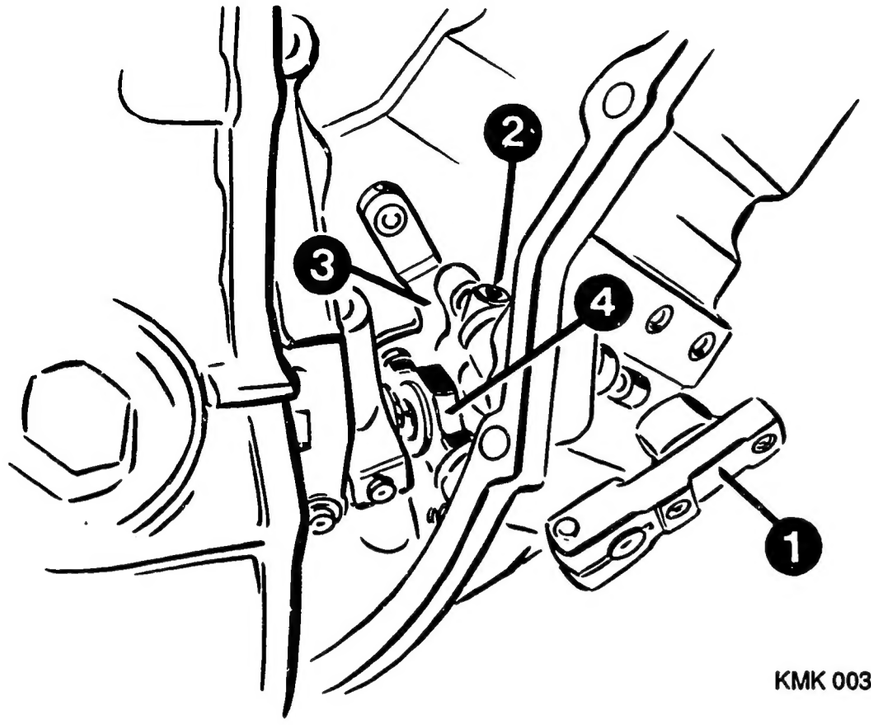
KMK 00306

1 = Guide pin

Unscrew guide pin as well as fastening screws of governor cover (arrows).

Detach governor cover from governor housing tapping carefully with rubber hammer if applicable.

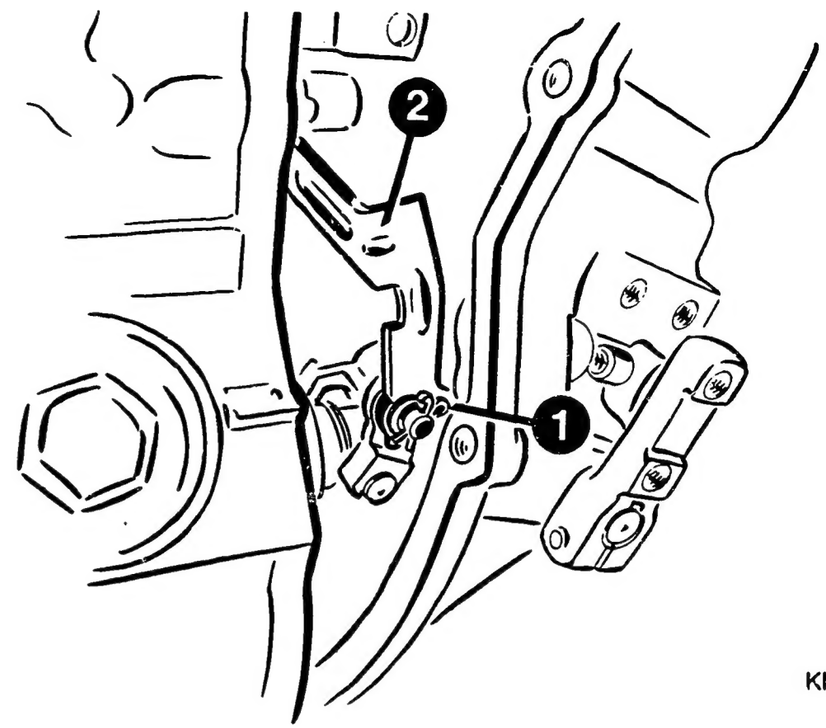
Note:
Catch oil which emerges in pan.



KMK 00307

1 = Setting shaft
2 = Guide block
3 = Variable-fulcrum lever
4 = Rocker-arm link

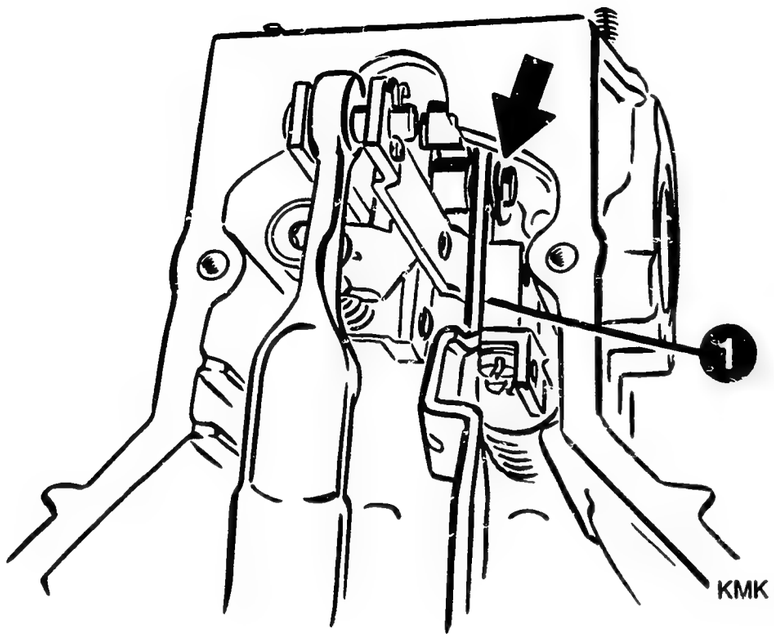
Position setting shaft such that it is vertical and pull guide block upwards out of variable-fulcrum lever.
At the same time, pull rocker-arm link upwards off drive-hub guide bushing.



KMK 00308

1 = Retaining spring
2 = Fulcrum lever

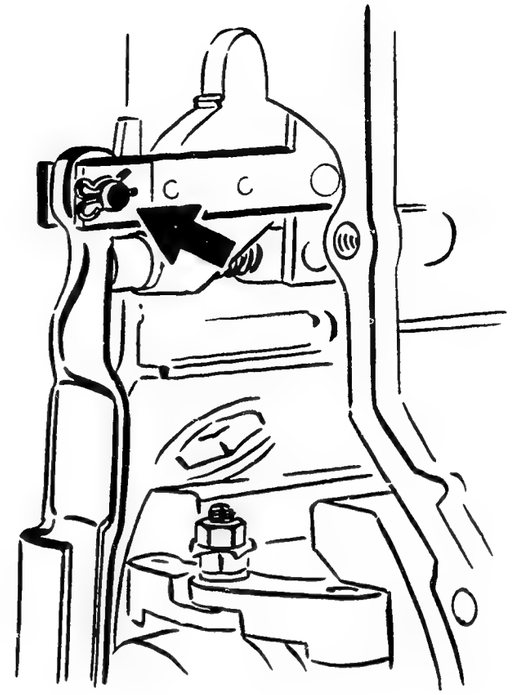
Remove retaining spring and detach fulcrum lever from rocker arm.



KMK 00309

1 = Fulcrum lever

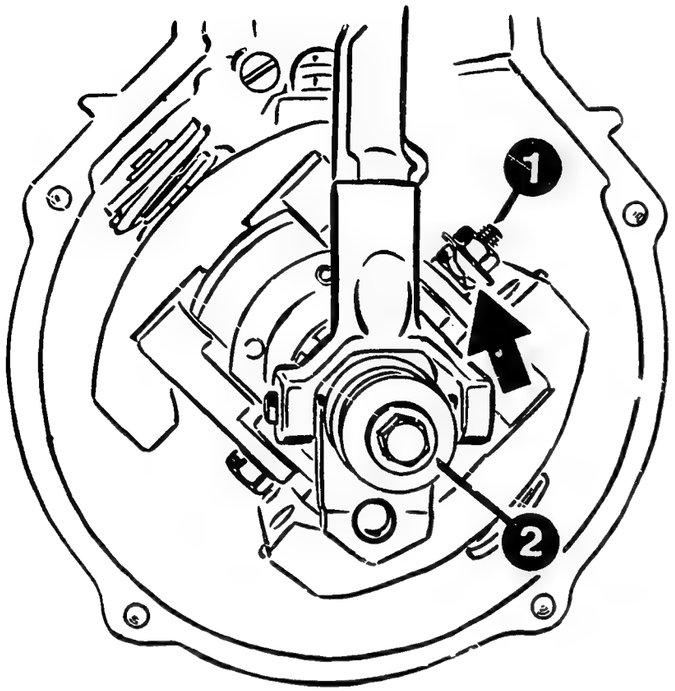
Remove retaining clip with shim (arrow) and detach fulcrum lever from link fork.



KMK 00310

Remove retaining spring from retaining pin (arrow) and pull pin out of link fork and variable-fulcrum lever.

Position link fork against governor housing and hold upwards with rubber ring.



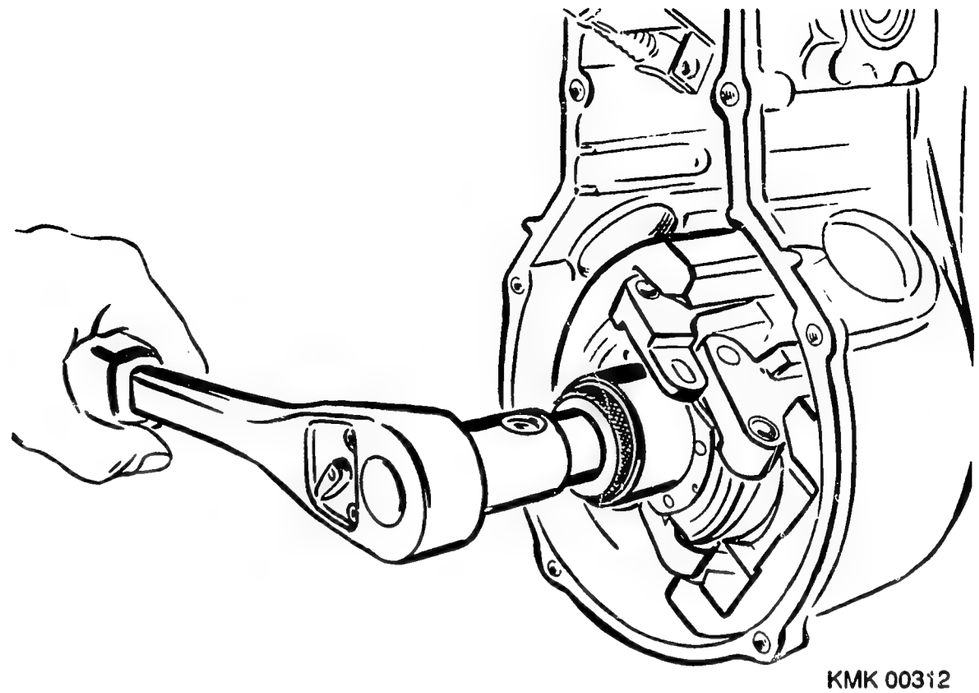
KMK 00311

1 = Coupling pin
2 = Drive hub

Bend open lock washer (arrow) at coupling pin and unscrew hexagon nuts.

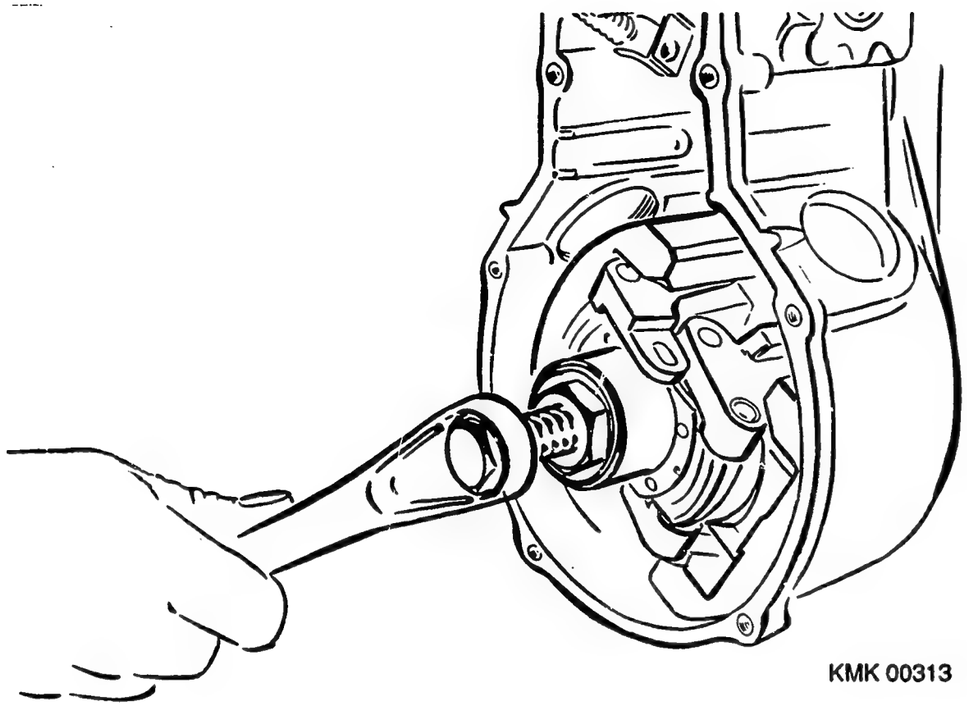
Pull out coupling pin upwards.

Pull drive hub out of governor assembly.



KMK 00312

Counter-hold camshaft and then loosen and unscrew round nut of governor assembly with socket wrench KDEP 2988.

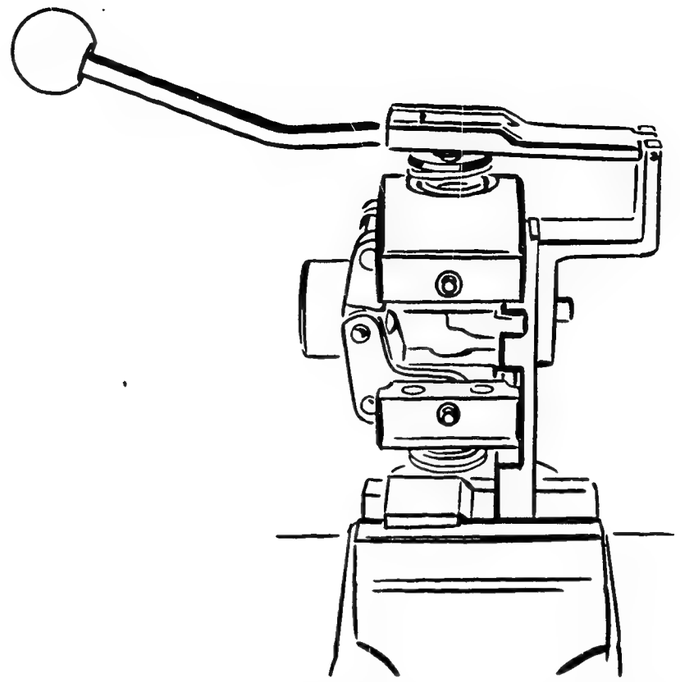


KMK 00313

Detach governor assembly with puller KDEP 2886 from camshaft.

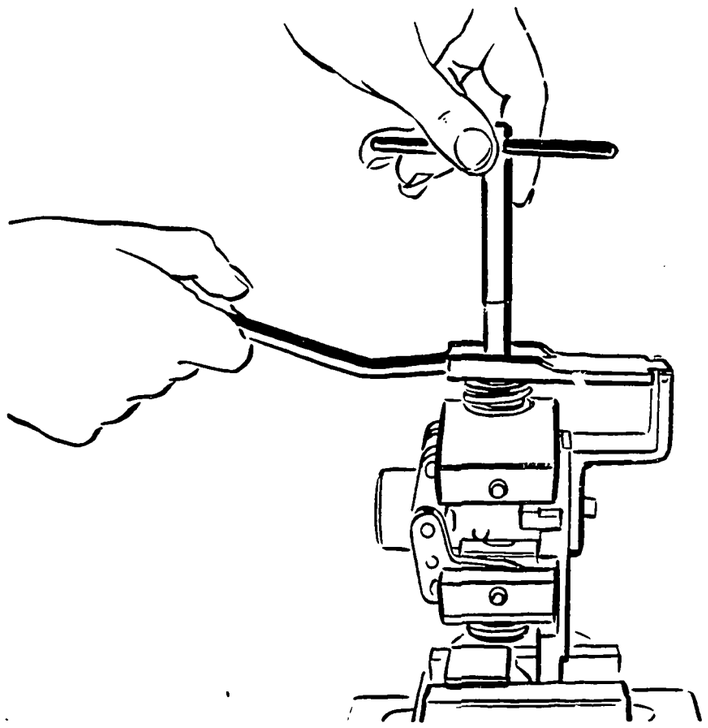
Screw puller out of governor assembly.

Remove shim for adjusting axial clearance.



KMK 00314

Attach governor assembly to installation jig KDEP 1637.



KMK 00315

Press multi-leaf spring together with tensioning lever.
Unscrew round nut (adjusting nut) from threaded pin of governor assembly using pin-type socket wrench KDEP 2989.

Completely relieve pressure on tensioning lever.

Remove governor springs, torque control and shims from flyweight assemblies.

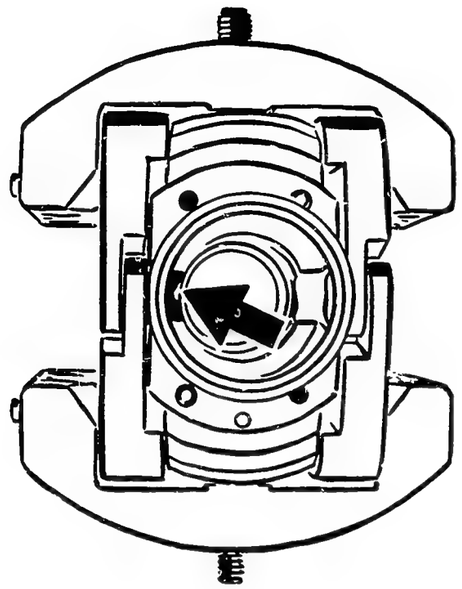
N o t e :
Governor assembly does not have to be disassembled if repairs are not to be performed on the governor.

CHECKING OF INDIVIDUAL COMPONENTS

Thoroughly wash out all individual components to ensure that they are clean.

Renew worn or damaged components.

Flat seals, radial-lip-type oil seals, rubber buffers and tab washers are always to be renewed.

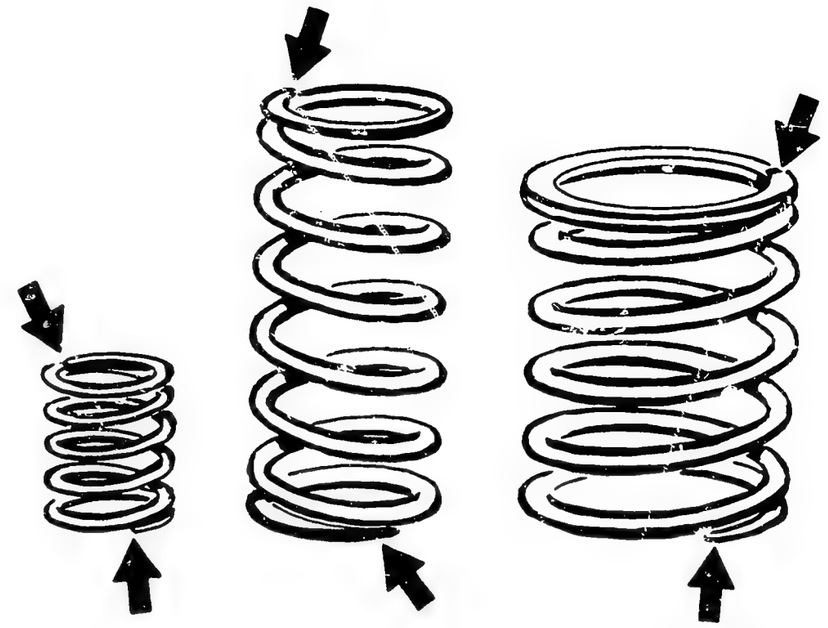


KMK 00316

Check governor assembly

Governor assembly must be renewed if it reveals the following damage:

* Worn web (picture – arrow)
* Loose retaining pins (can be shifted in axial direction)
* Bent threaded pins

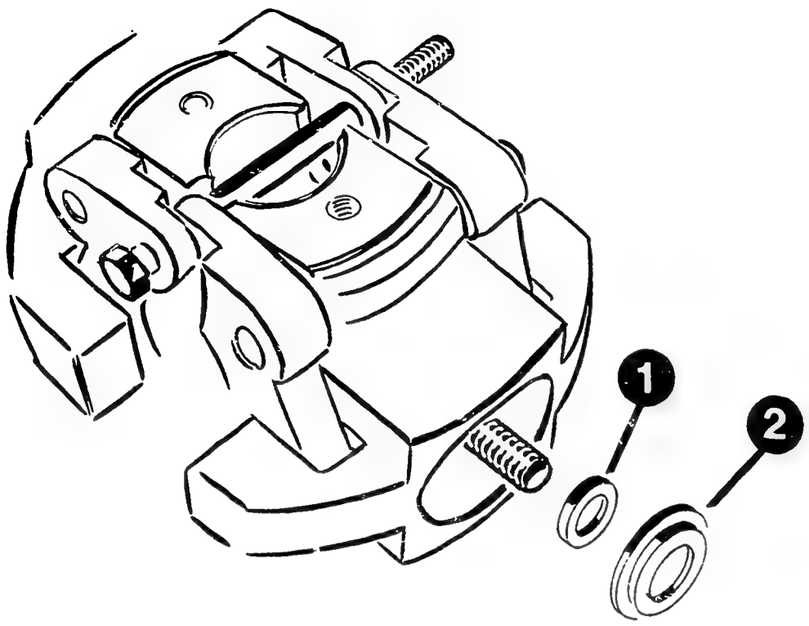


KMK 00317

Check governor springs

Governor springs which are corroded or which feature damaged surfaces must be replaced due to the danger of fracture.

The area around the ends of the windings is to be subjected to particular scrutiny (arrows).



KMK 00318

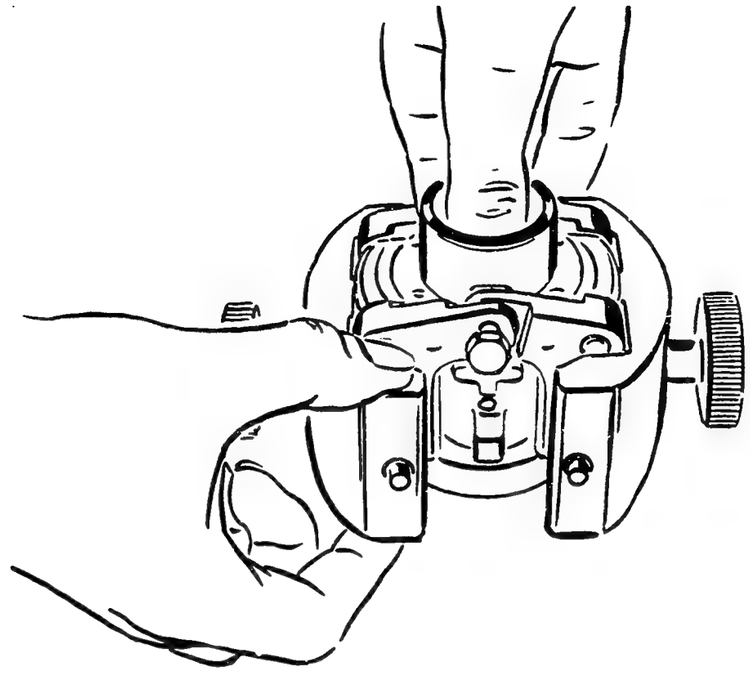
1 = Shim
2 = Spring seat
3 = Coupling pin

RQ..K GOVERNOR REPAIR

Install shim and spring seat in both the flyweight assemblies for checking and adjusting vibrational play of flyweights.

Temporarily fit a coupling pin.

Note:
Insert chamfer of shim towards bottom of the flyweight.



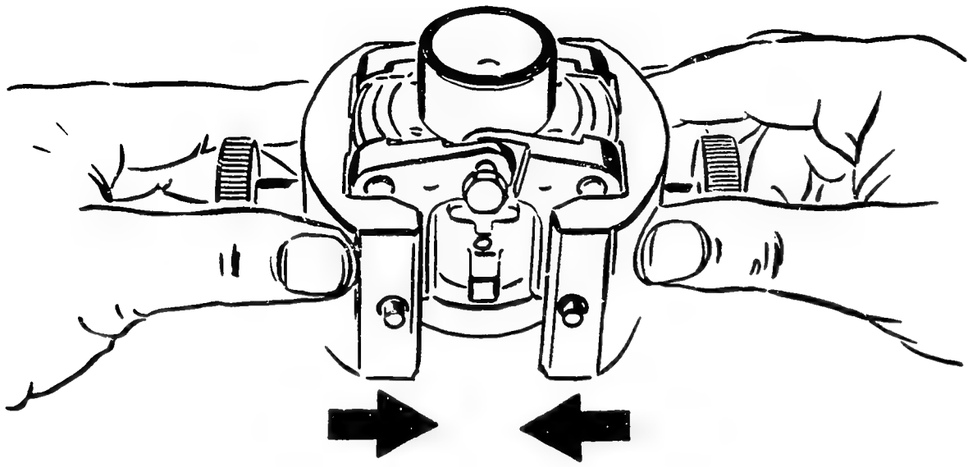
KMK 00319

Place drive end of governor assembly in position such that it is flat.

Secure shims and spring seat by screwing in blocking sleeves KDEP 1586.

Position flyweights against spring seat by pressing on coupling pin.

Attempt to turn flyweights back and forth around pivot pins (picture).
Both flyweights must make uniformly tight contact without play.
If a flyweight can be moved, the shim on one side is to be replaced with a different shim of another size.



KMK 00320

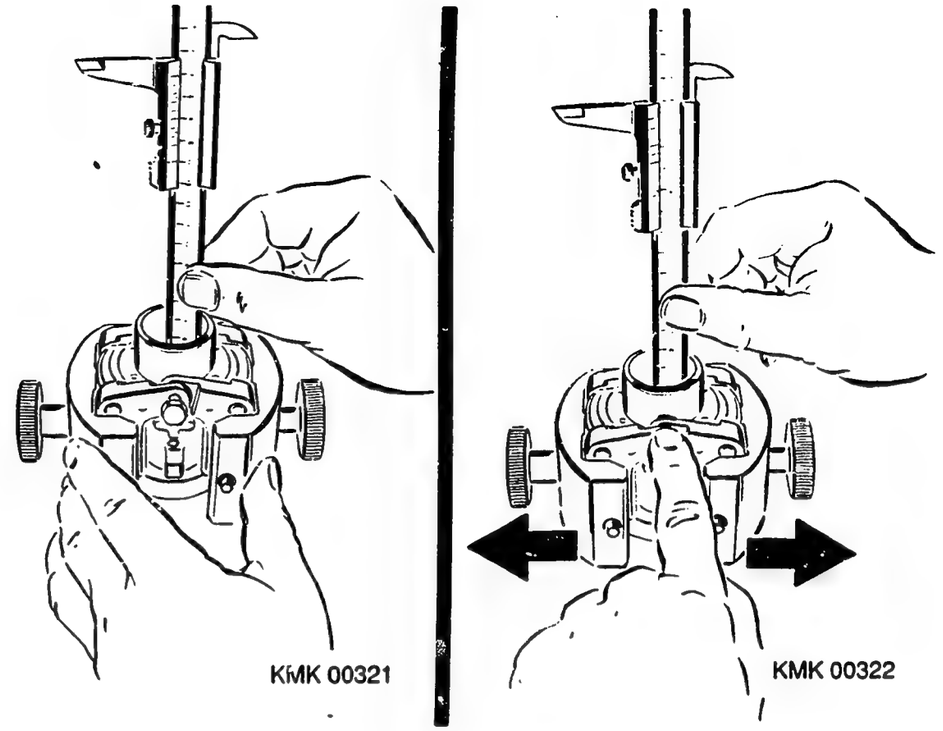
After setting vibrational play, measure and adjust idle stage of governor assembly.

Prerequisite:

Do not remove the parts fitted and calibrated for vibrational-play adjustment.

Place drive end of governor assembly in position such that it is flat.

Press flyweight assemblies together (arrows).



KMK 00321

KMK 00322

Measure distance between coupling pin and contact surface with caliper gauge and note down results (picture, left).

Then pull flyweight assemblies apart as far as the spring seats will go (picture, right - arrows).

Press on the coupling pin and measure distance between coupling pin and contact surface again.

The idle stage is the result of the difference between the two dimensions.

Set value: 5.4 ... 5.6 mm

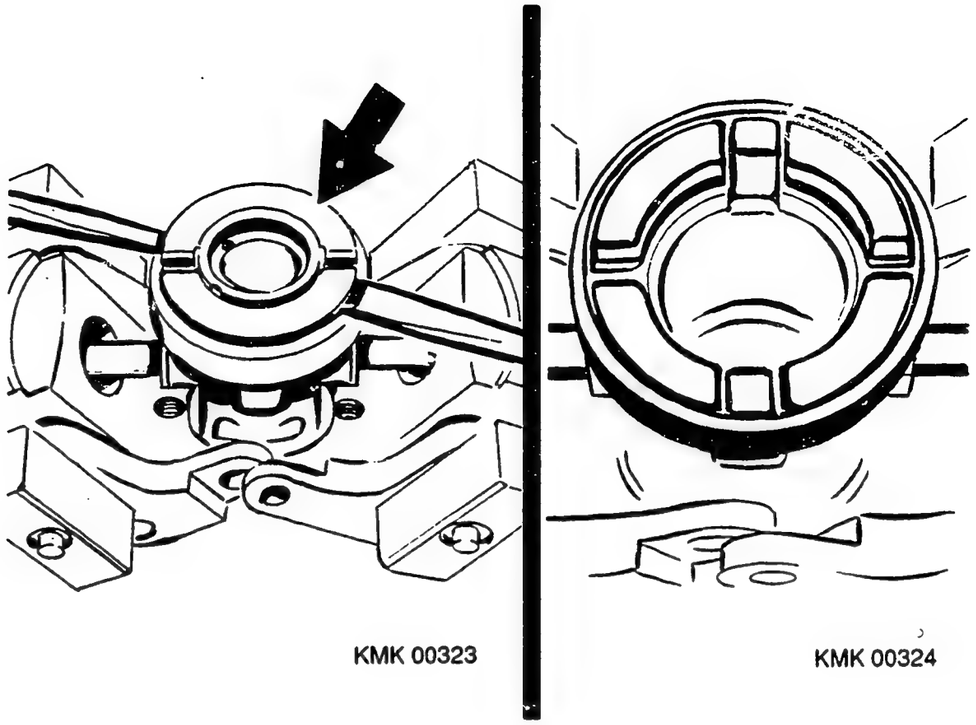
Note:

Compare set value for idle stage to corresponding control-rod travel (CRT).

Control-rod travel (CRT)	Idle-stage set value
14.7 ... 15.7 mm	5.4 ... 5.6 mm

If the measurement result is outside the applicable tolerance range, the idle stage must be adjusted by replacing the shims with shims of a different size.

Repeat check on vibrational play.



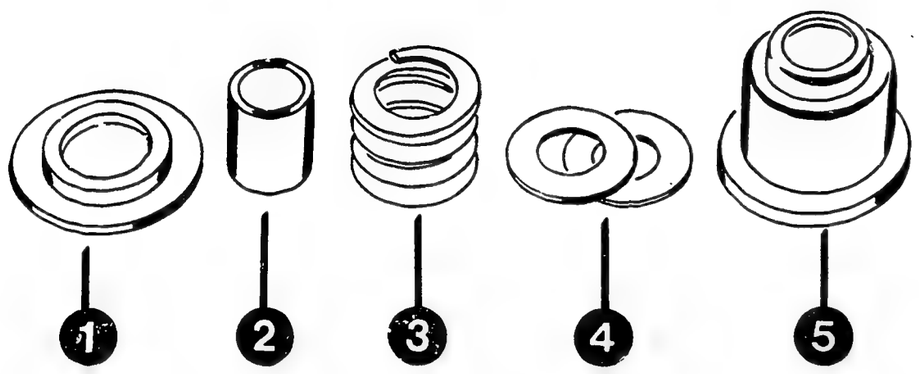
KMK 00323

KMK 00324

Unscrew blocking sleeves KDEP 1586 and replace them with hexagon nuts.
Parts already calibrated can thus no longer be mixed up.

Lever drive hub (picture, left – arrow) evenly out of governor assembly with screwdriver.

Remove rubber buffer (picture, right).



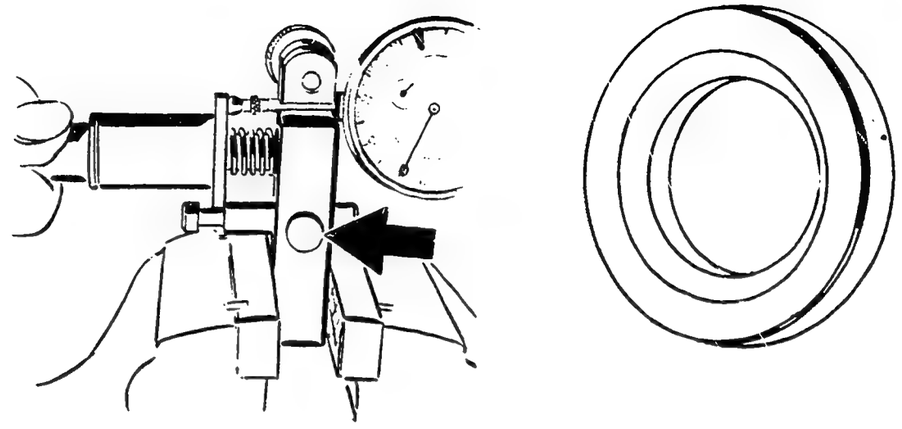
KMK 00325

1 = Spring seat
2 = Spacer sleeve
3 = Helical compression spring
4 = Shims
5 = Spring retainer

TORQUE-CONTROL ADJUSTMENT

In the case of governor versions with torque control, the torque-control travel "a" is to be set by means of shims.

The torque-control travel (dimension "a") is always 2 mm for RQ..K governors.



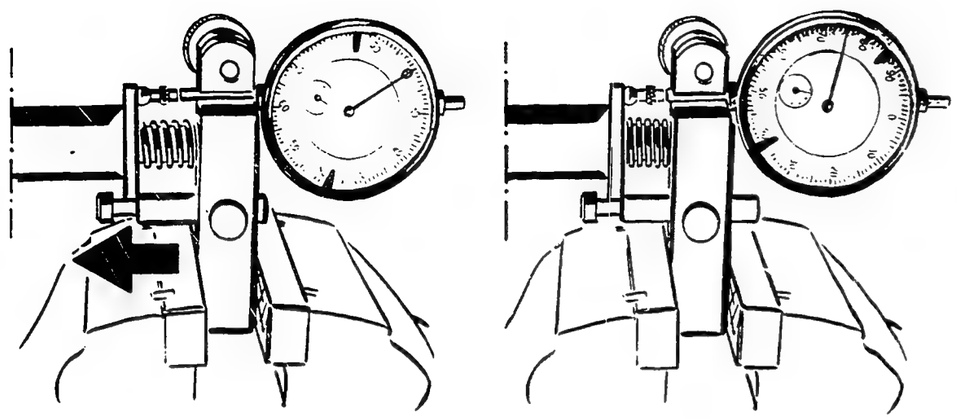
KMK 00326

Clamp torque-control measuring device KDEP 2984 in position in vice.

Fit and secure dial gauge (picture, left).

Slip shim (picture, right), spring seat and spring retainer onto pin of measuring device in stated sequence. (W i t h o u t s p a c e r s l e e v e !)

Loosen clamping screw (picture, left - arrow).



KMK 00327

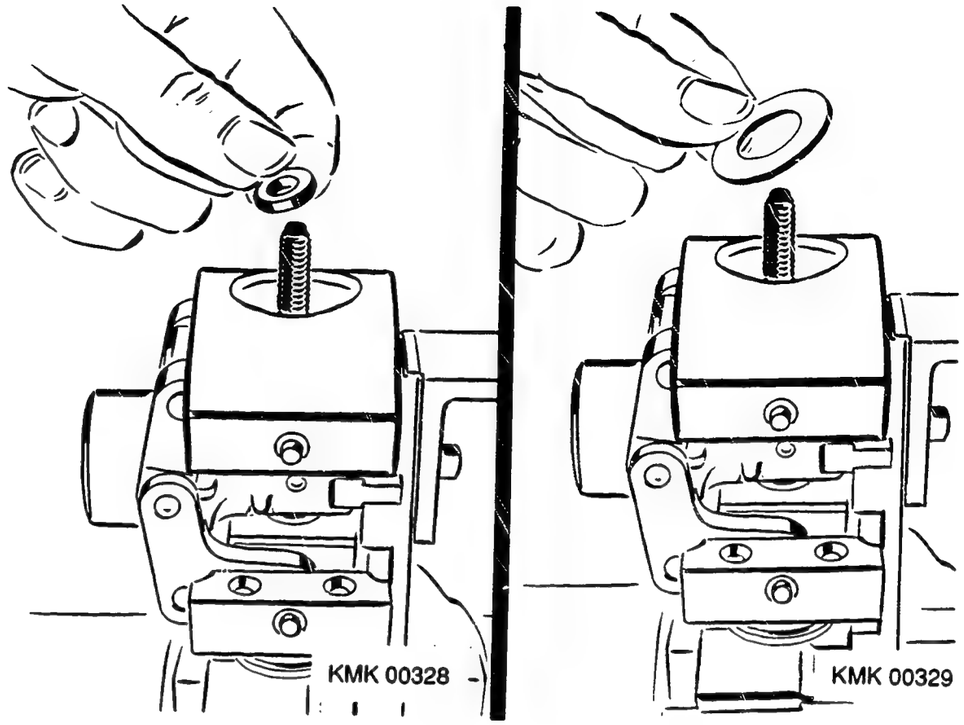
Press spring retainer as far as stop of measuring device. Press stop pin against edge of measuring sleeve (picture, left - arrow), pull back again roughly 1 mm and secure.

Set dial gauge to "0" (picture, left).

Remove spring retainer and slip shims onto pin of measuring device until overall thickness produces 2 mm torque-control travel.

Slip on spring retainer with spacer sleeve and re-check torque-control travel (picture, right). Repeat measurement sequence for calibrating second torque control.

Note:
Pointer of dial gauge deflects to left. Read off measured value at red numbers.



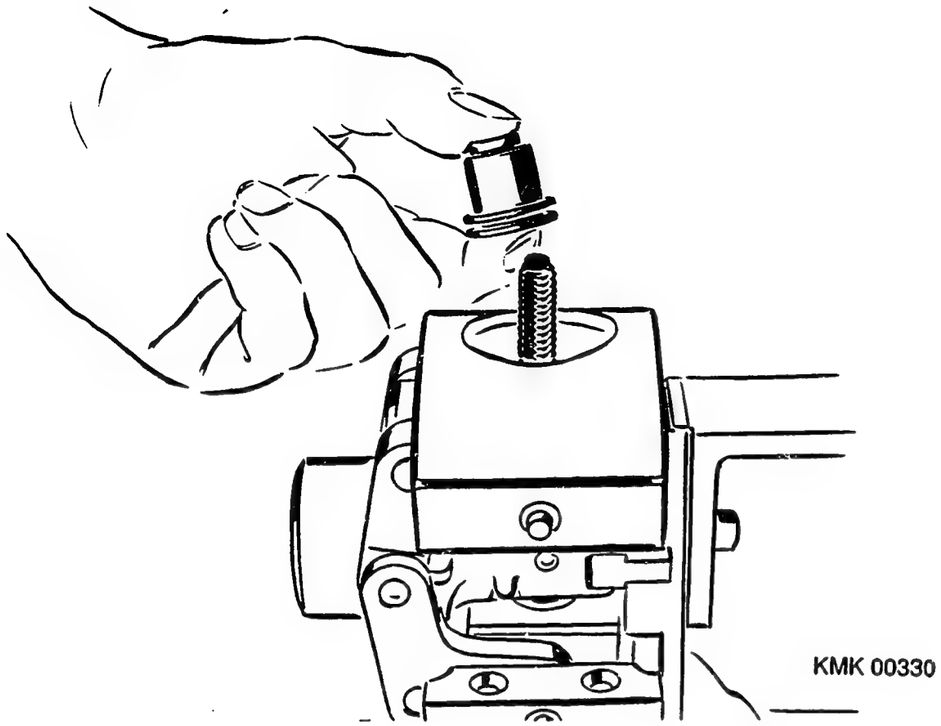
KMK 00328

KMK 00329

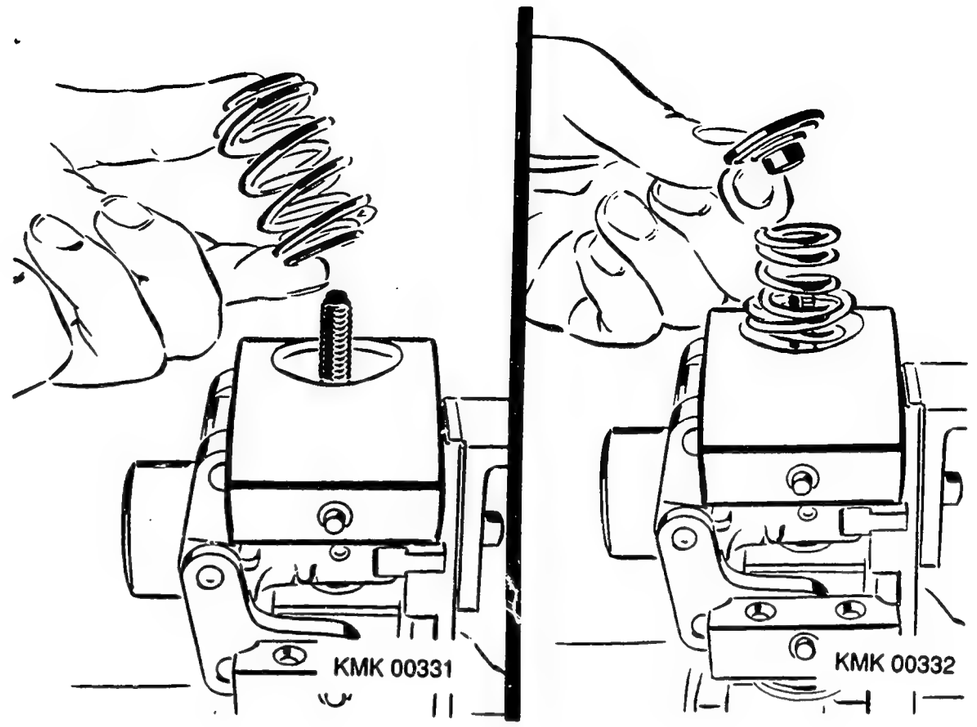
Carry out operations described below to complete flyweight assemblies.

Attach governor assembly to installation jig KDEP 1637.

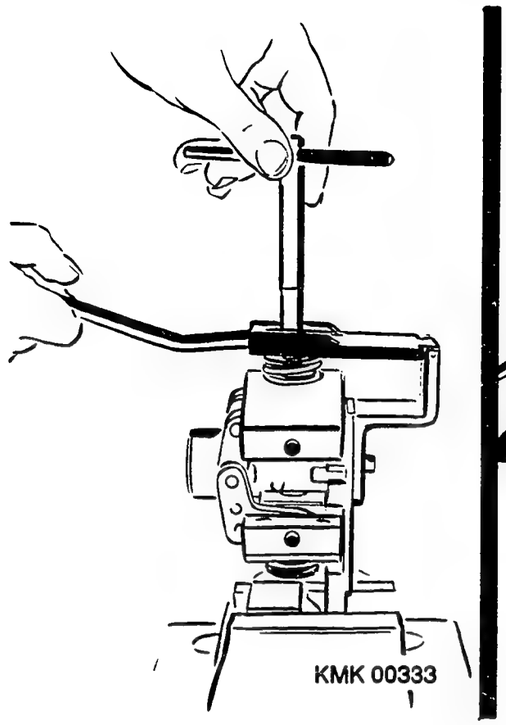
Insert shim (picture, left) with chamfer facing bottom of flyweight as well as washers (picture, right).

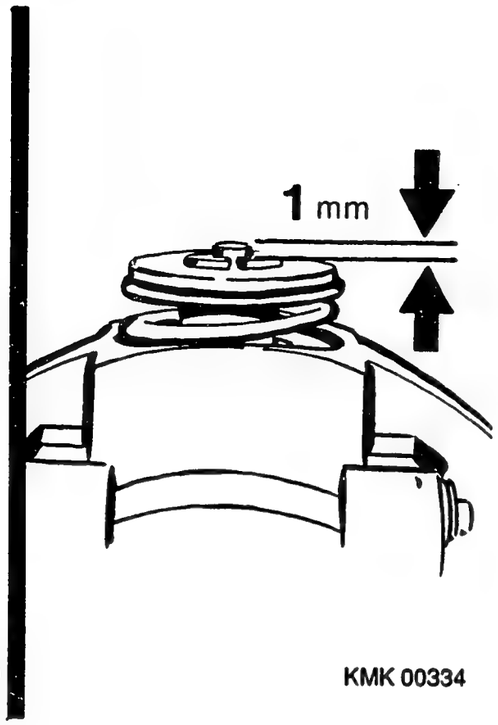


Insert complete torque control.



Insert governor springs in flyweight assembly (picture, left) and place the spring seat in position (picture, right).





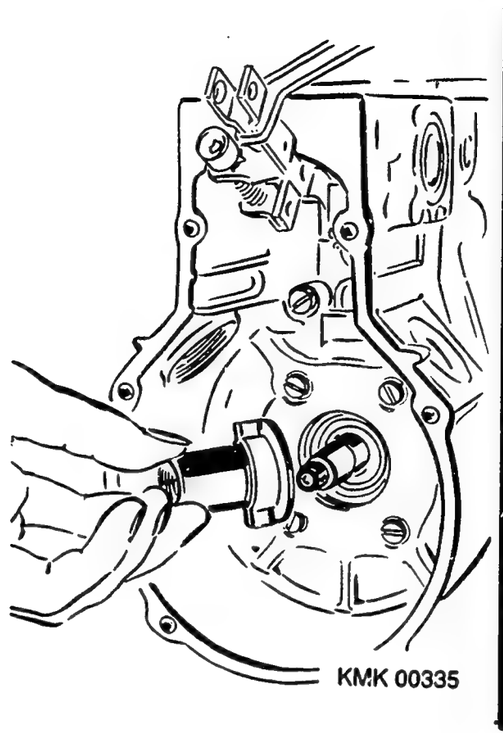
1 = Clamping sleeve
2 = Round nut

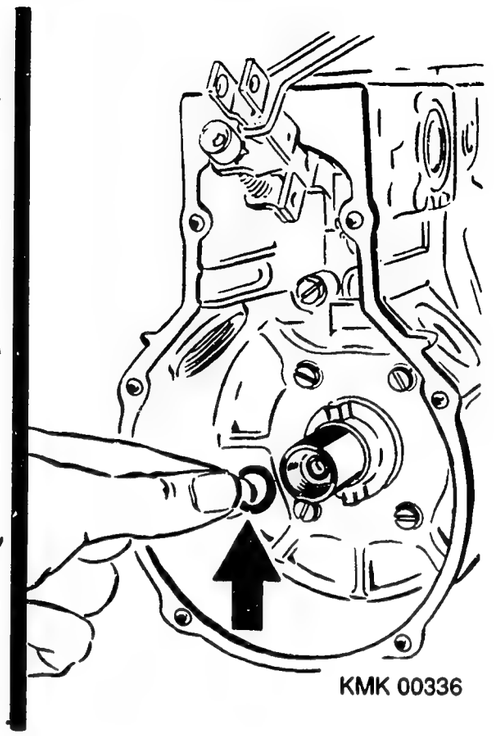
Press multi-leaf spring together with tensioning lever.

Ensure that guide of spring seat coincides with ground-down sides of threaded pin.

Screw round nut onto threaded pin with pin-type socket wrench KDEP 2989 such that spring seat engages (picture, left).

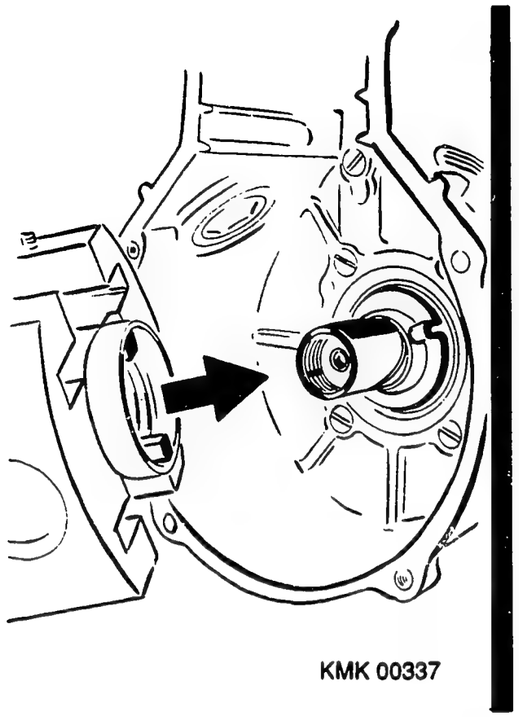
Check pre-setting dimension of 1 mm between threaded pin and round nut (picture, right).



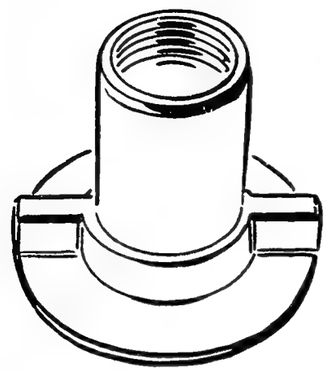


Slip drive hub (picture, left) onto taper of camshaft to assess axial clearance of governor assembly.

Insert existing shim (picture, right - arrow).



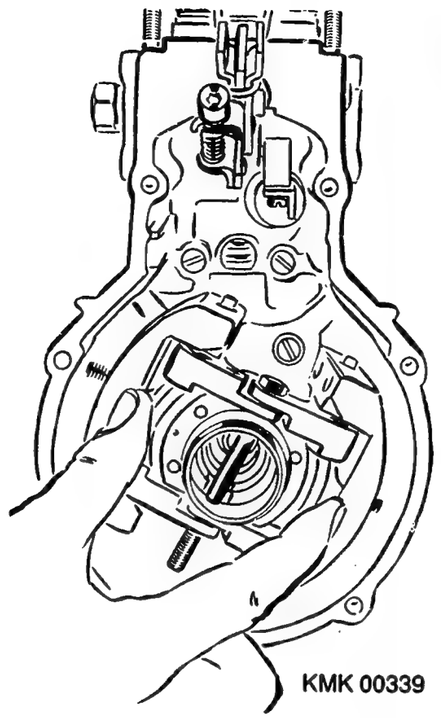
KMK 00337



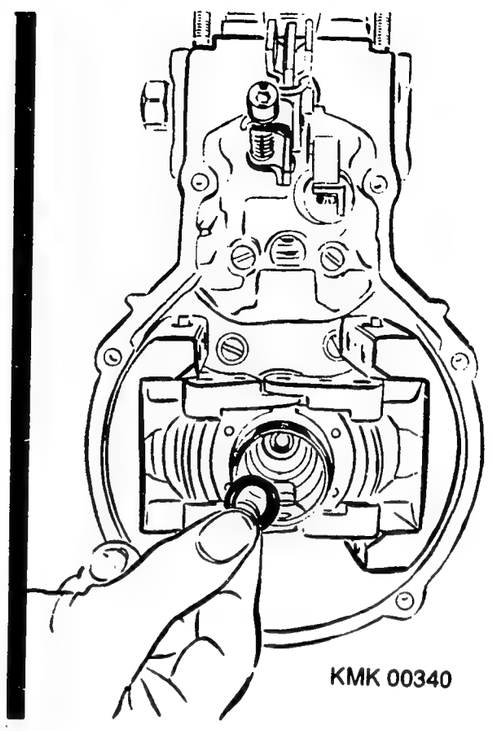
KMK 00338

Insert governor assembly without rubber buffer (picture, left).

Screw on round nut and tighten governor assembly to 65 ... 75 Nm using socket wrench KDEP 2988.



KMK 00339

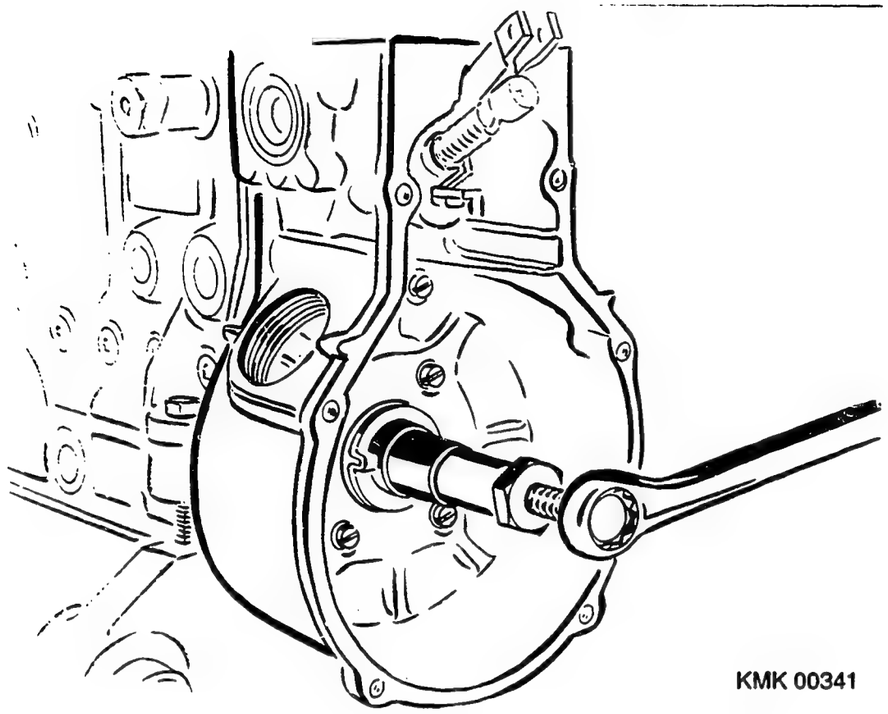


KMK 00340

If axial clearance is properly set, it must be possible to turn the governor assembly with suction and without it sticking (picture, left).

If, on the other hand, the governor assembly is too easy or too difficult to turn, the axial clearance must be corrected by replacing the shim (picture, right).

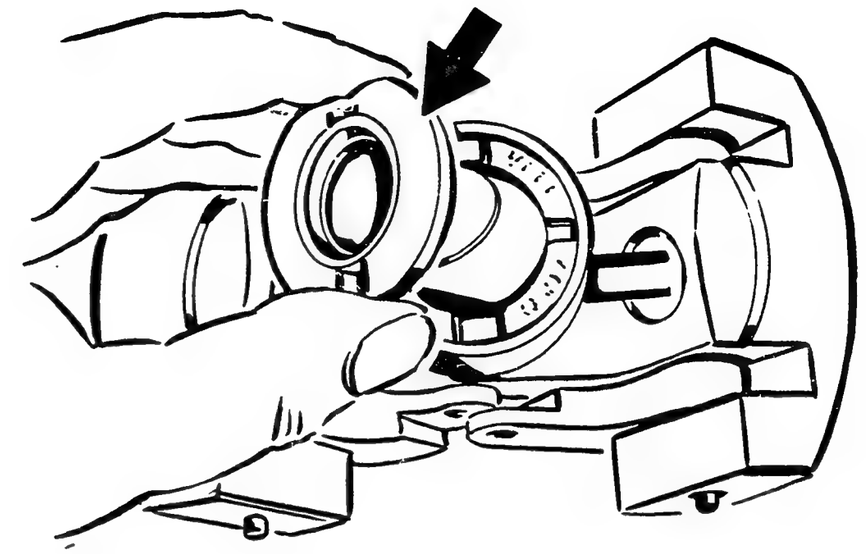
Note:
To stop the flyweights catching on the governor housing when assessing the axial clearance, temporarily fit coupling pin in governor assembly.



KMK 00341

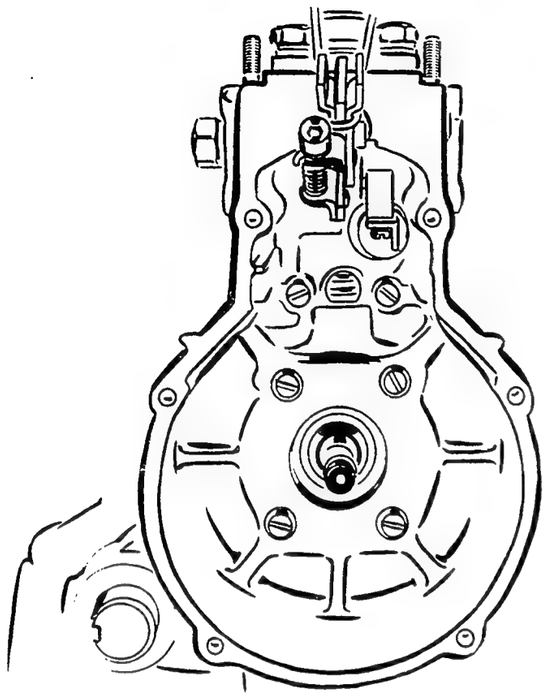
Remove governor assembly again after adjusting axial clearance.

Detach secured drive hub from camshaft using puller KDEP 2886.



KMK 00342

Fit new rubber buffers in governor assembly after applying grease and then press in drive hub (arrow).

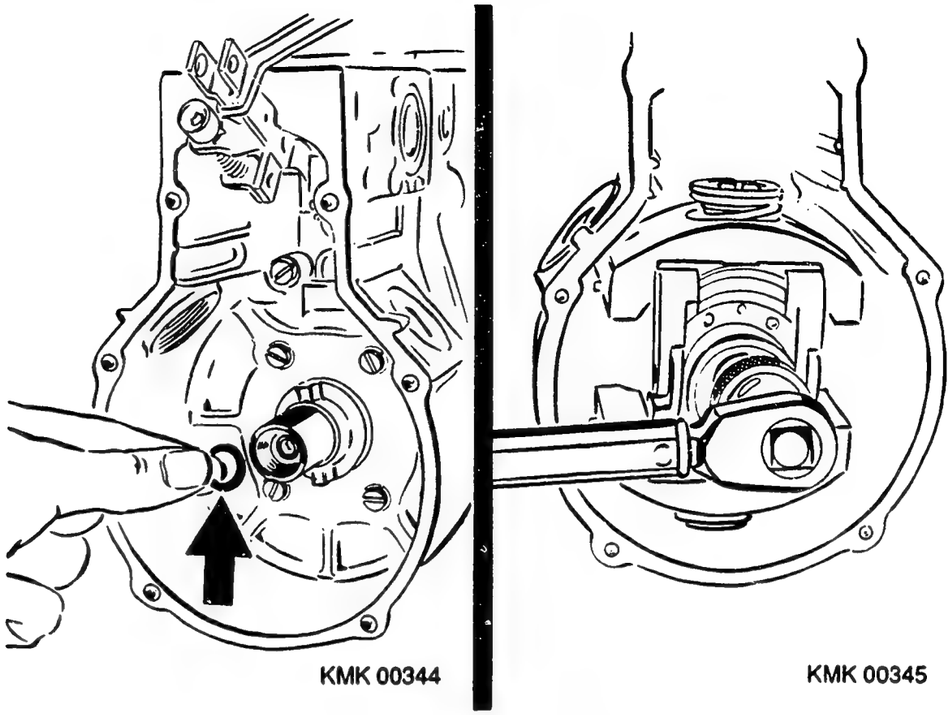


KMK 00343

GOVERNOR ASSEMBLY

When performing operations outlined below, exclusive use is to be made of individual components which have been cleaned and which are neither worn nor damaged.

Renew flat seals and tab washers.



KMK 00344

KMK 00345

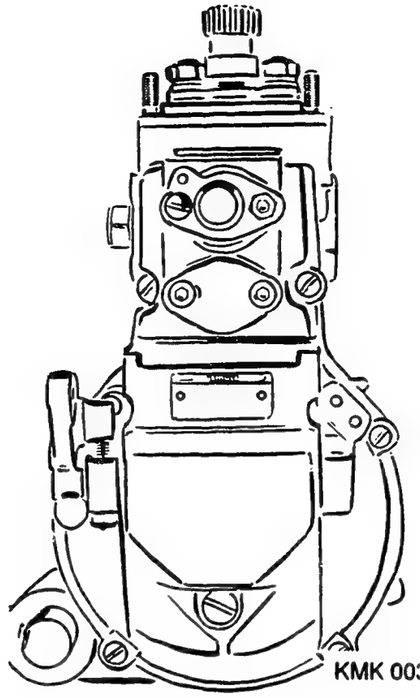
Slip complete governor assembly onto taper of camshaft.

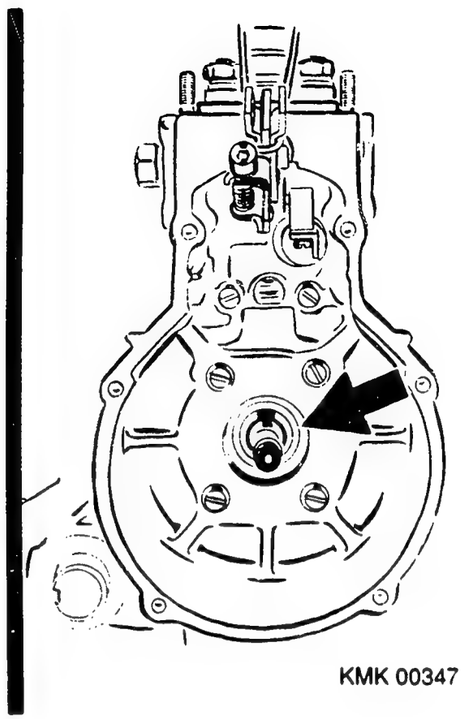
Fit axial-clearance shim as determined (picture, left - arrow).

Screw on round nut and tighten governor assembly to 65 ... 75 Nm using socket wrench KDEP 2988.

Check freedom of movement of governor assembly after tightening. To do so, block flyweights and turn camshaft.

If the camshaft cannot be turned, repeat adjustment of governor-assembly axial clearance.

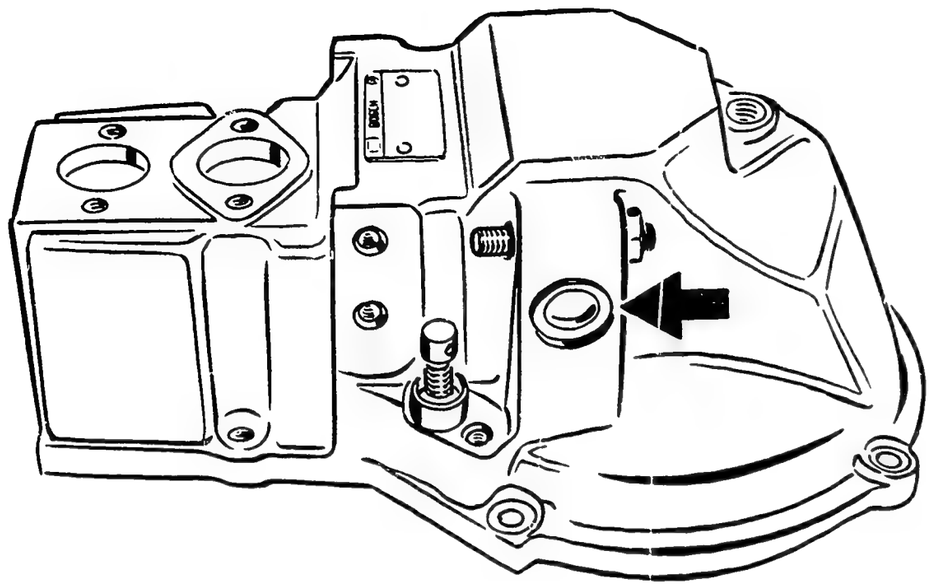

KMK 00346


KMK 00347

Check governor cover and governor housing

Perform visual inspections as follows:

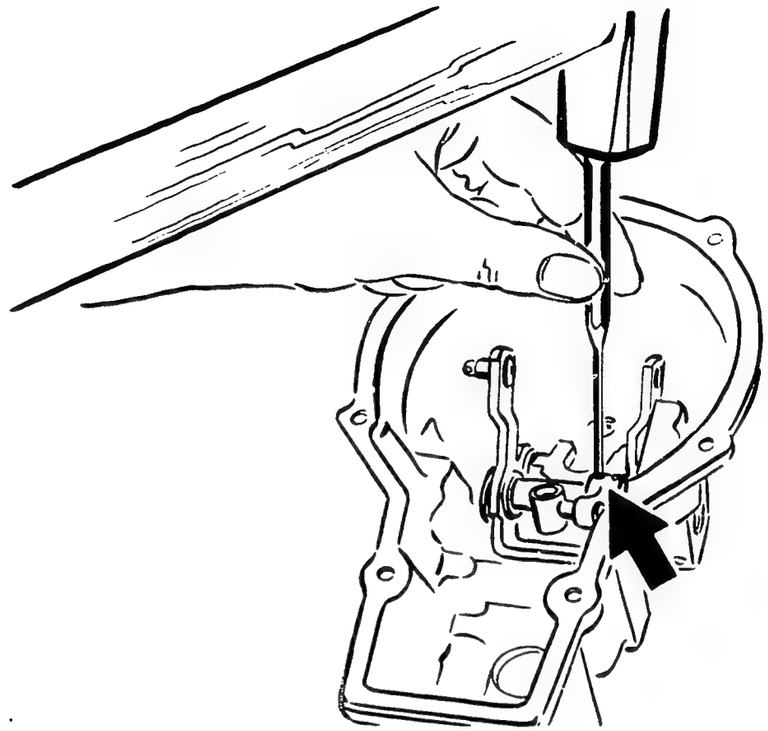
* Threaas at stay bolts and inserts
* Look for cracks in camshaft support in governor housing (picture, right - arrow)
* Flatness of sealing surface



KMK 00348

Only perform following operations in the event of:
* Worn bushings of control-lever shaft
* Worn or sticking control-lever shaft
* Damage to guide block

Note:
Radial-lip-type oil seal of control-lever shaft (arrow) is always to be renewed.



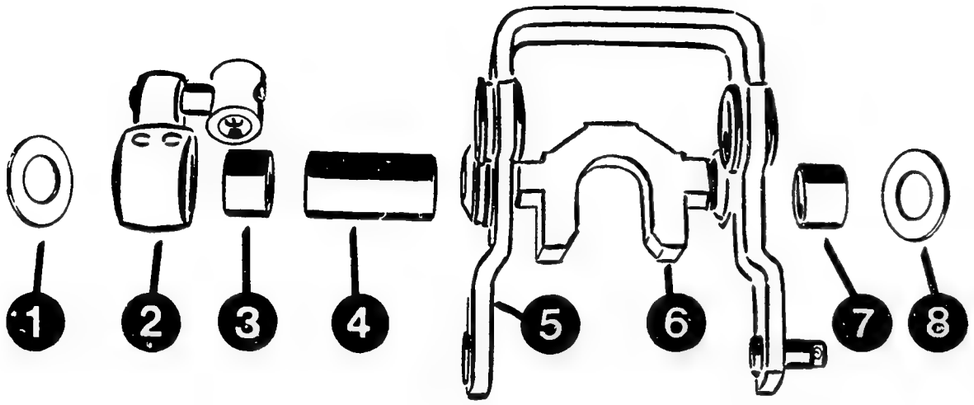
KMK 00349

Position fulcrum lever such that knock-out side of taper pins is facing upwards.

Knock out taper pins (as shown in picture).

Pull setting shaft out of governor cover.

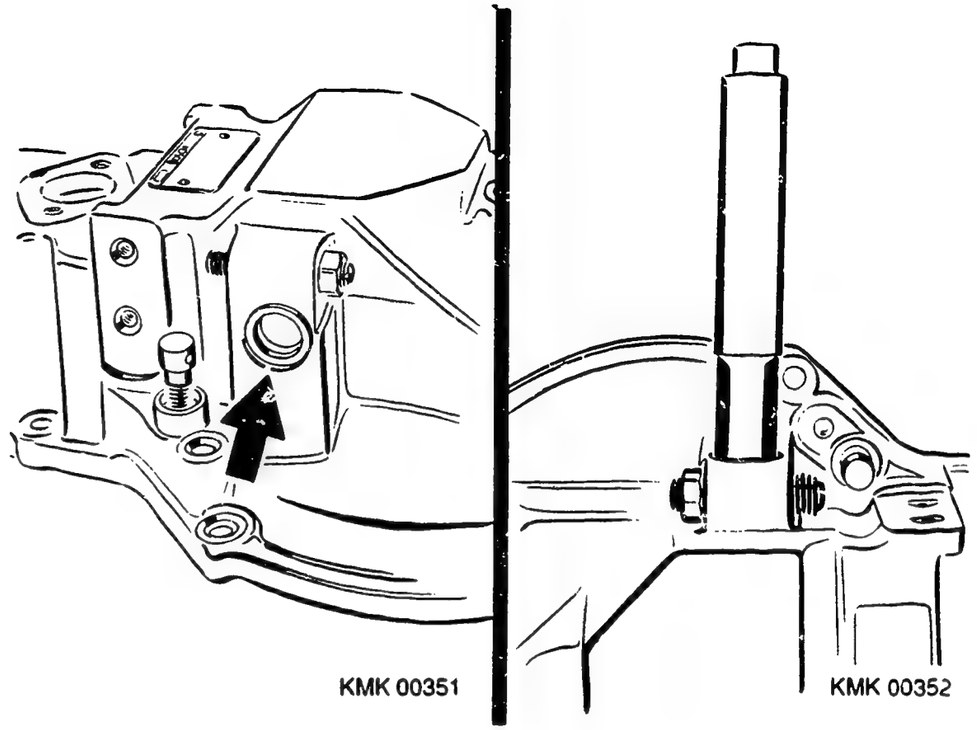
Remove control lever.



KMK 00350

1 = Washer
2 = Linkage lever
3 = Guide bushing
4 = Spacer bushing
5 = Rocker arm
6 = Link
7 = Guide bushing
8 = Washer

Check all parts of governor cover for wear.



KMK 00351

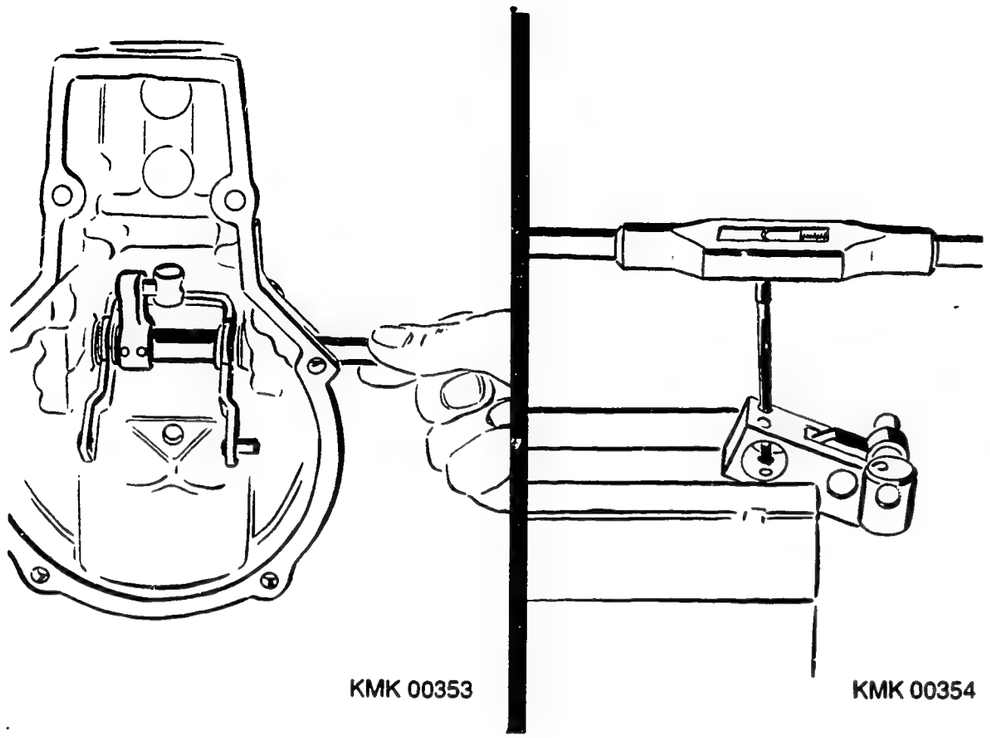
KMK 00352

Remove radial-lip-type oil seal (picture, left - arrow).

Press out bushings with mandrel KDEP 1584 (picture, right).

Provide support for governor cover on opposite side when pressing out.

Likewise press in new bushings with mandrel KDEP 1584.



KMK 00353

KMK 00354

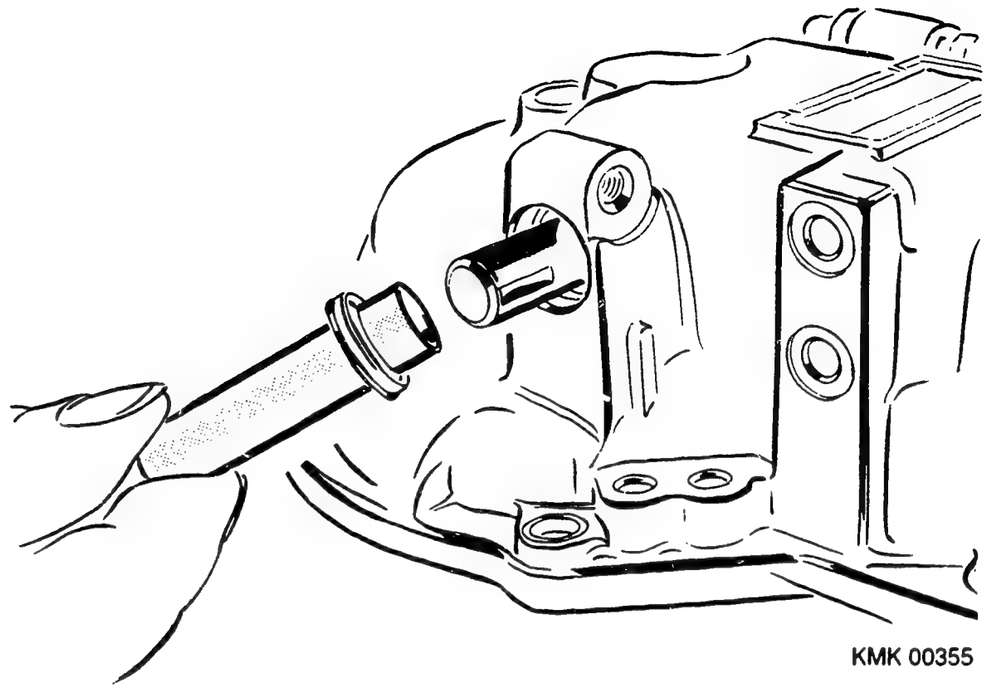
Insert setting shaft on open side into governor cover.

Slip washer, guide bushing, rocker arm with spacer bushing, linkage lever, guide bushing and washer in stated sequence onto setting shaft (picture, left). Then completely push through setting shaft.

Check freedom of movement of setting shaft

Fit control lever on setting shaft.

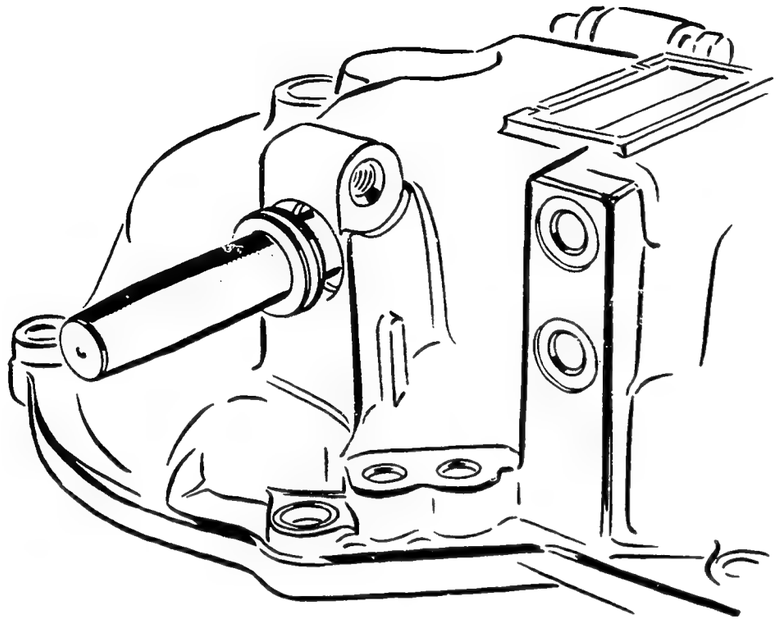
Note:
In the case of a new setting shaft, the positioning holes must be reamed with a taper reamer (picture, right).
Pre-ream with 2.5 mm reamer - 1:50.
Finish-ream with 3 mm reamer - 1:50.



KMK 00355

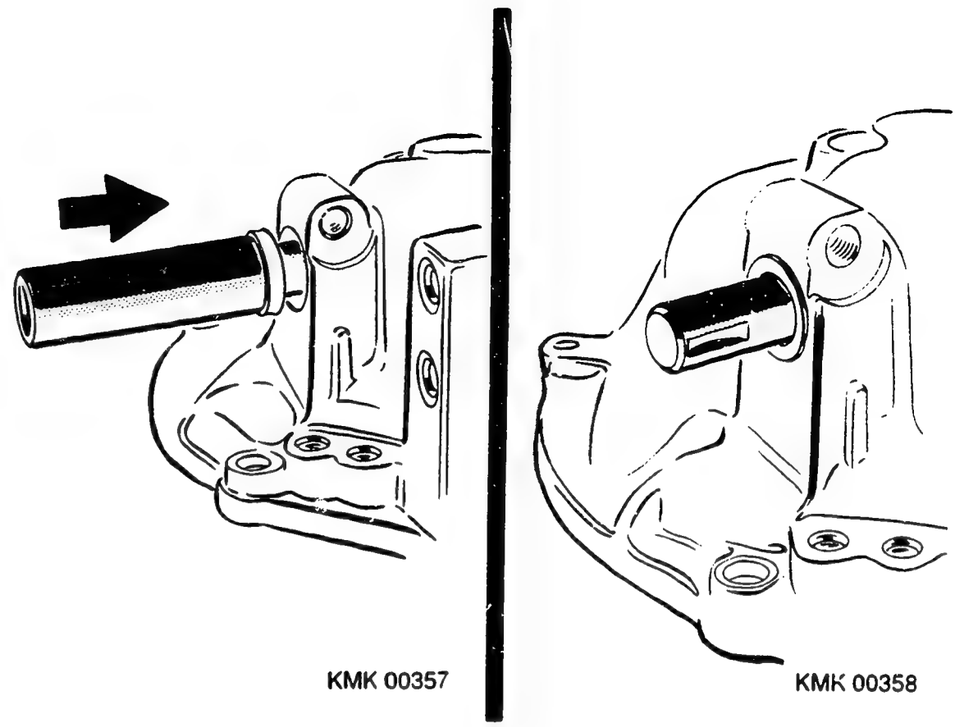
1 = Assembly tool KDEP 1708
2 = Radial-lip-type oil seal

Slip new radial-lip-type oil seal onto assembly tool KDEP 1708.



KMK 00356

Push assembly tool KDEP 1708 with radial-lip-type oil seal fitted onto setting shaft.

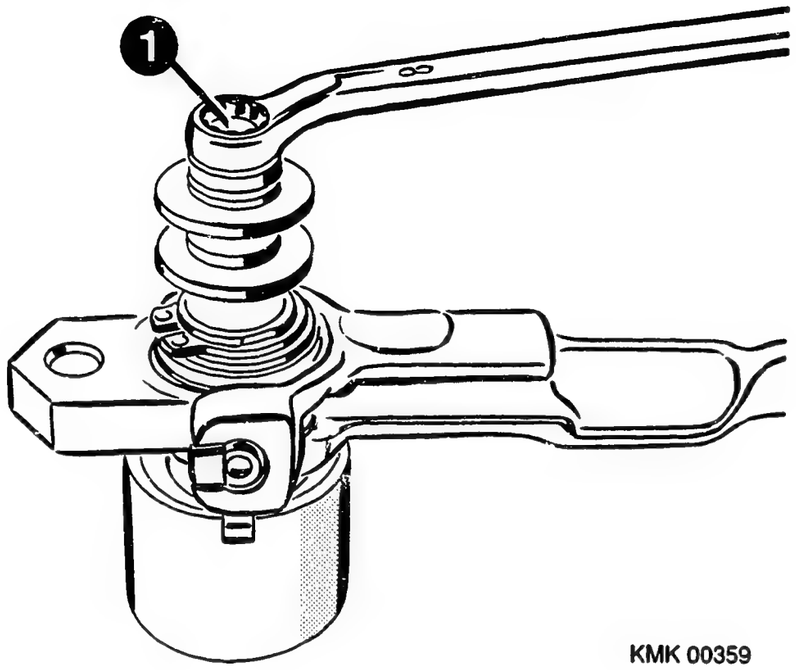


KMK 00357

KMK 00358

Press in radial-lip-type oil seal (picture, left).

Remove assembly tool KDEP 1708 from setting shaft (picture, right).



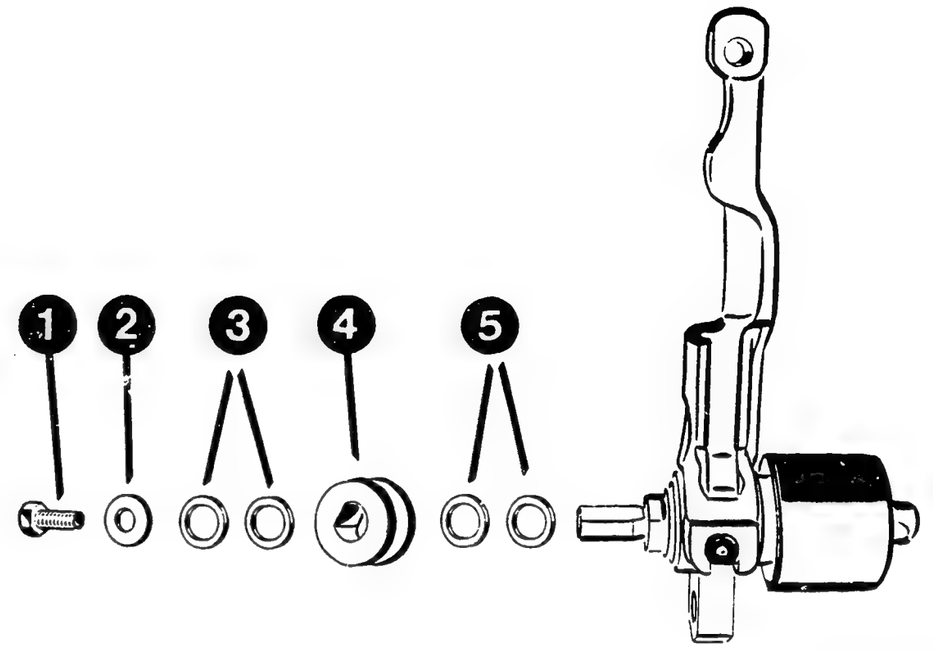
KMK 00359

1 = Micro-encapsulated screw

DRIVE-HUB REPAIR

Note:
Drive hub need not be disassembled if governor is not to be repaired.

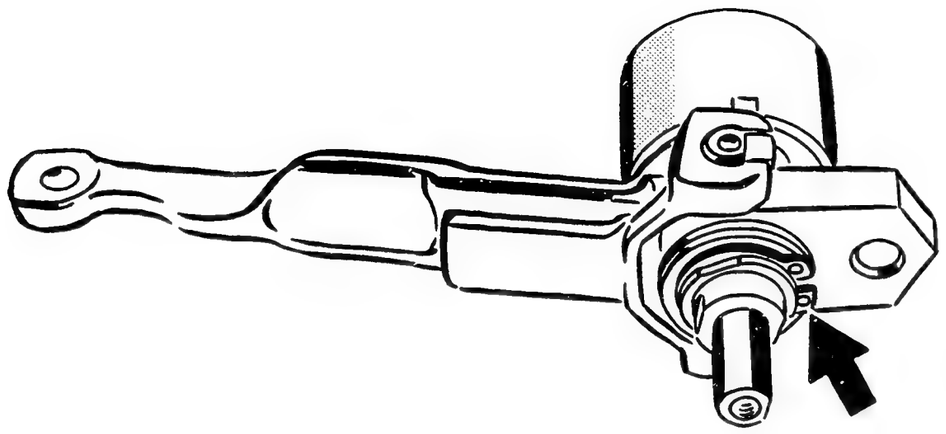
Loosen and unscrew micro-encapsulated screw.



KMK 00360

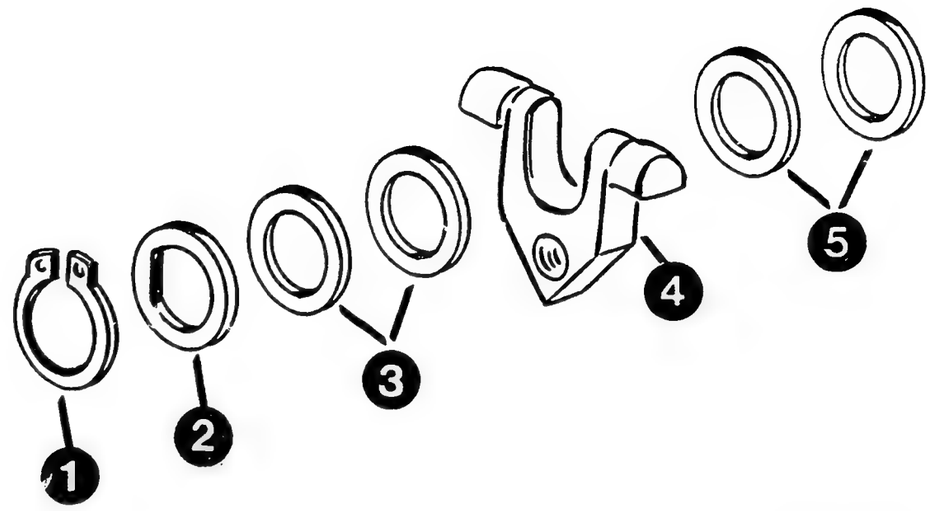
1 = Micro-encapsulated screw
2 = Shim
3 = Shims
4 = Guide bushing
5 = Shims

Important:
Place parts in position in sequence and do not mix up.



KMK 00361

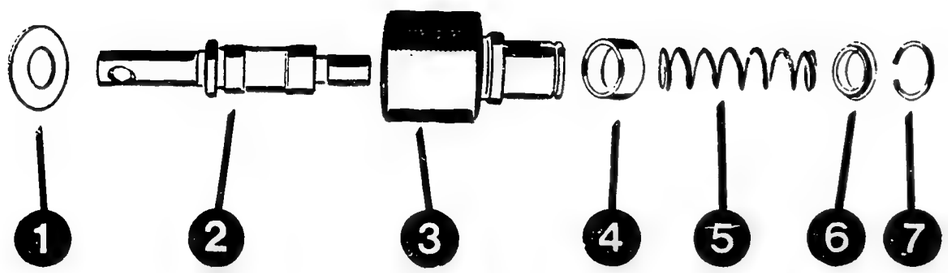
Remove retaining ring (arrow).



KMK 00362

1 = Retaining ring
2 = Shim
3 = Shims
4 = Universal joint
5 = Shims

Note:
Place parts in position in sequence and do not mix up.



KMK 00363

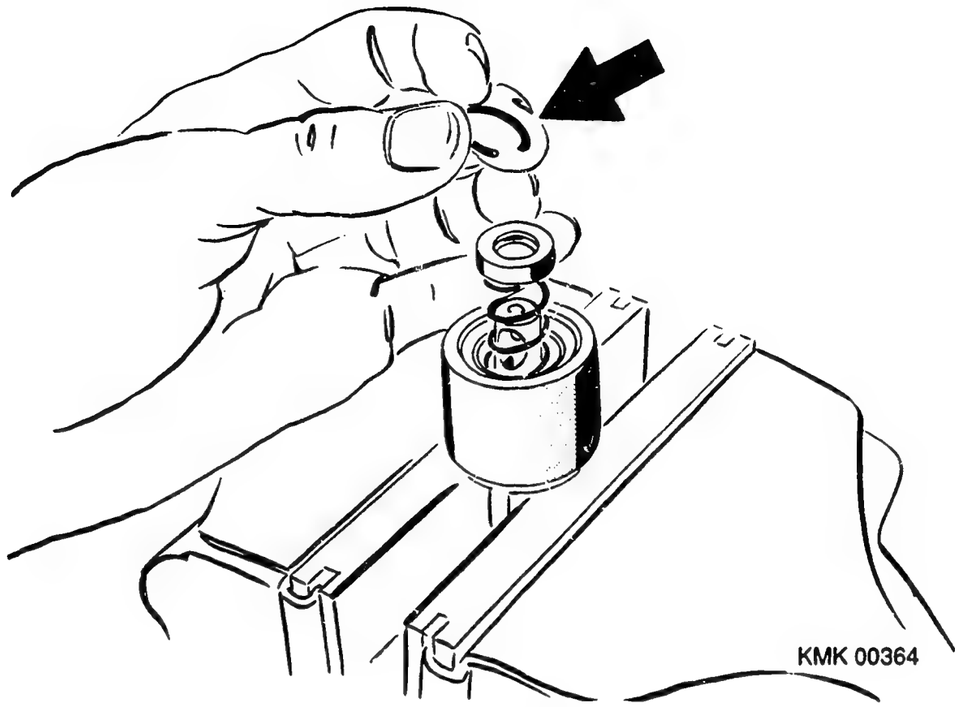
1 = Cover disc
2 = Center bolt
3 = Spring retainer
4 = Guide bushing
5 = Helical compression spring
6 = Spring seat
7 = Retainer

Remove cover disc.

Remove retainer.

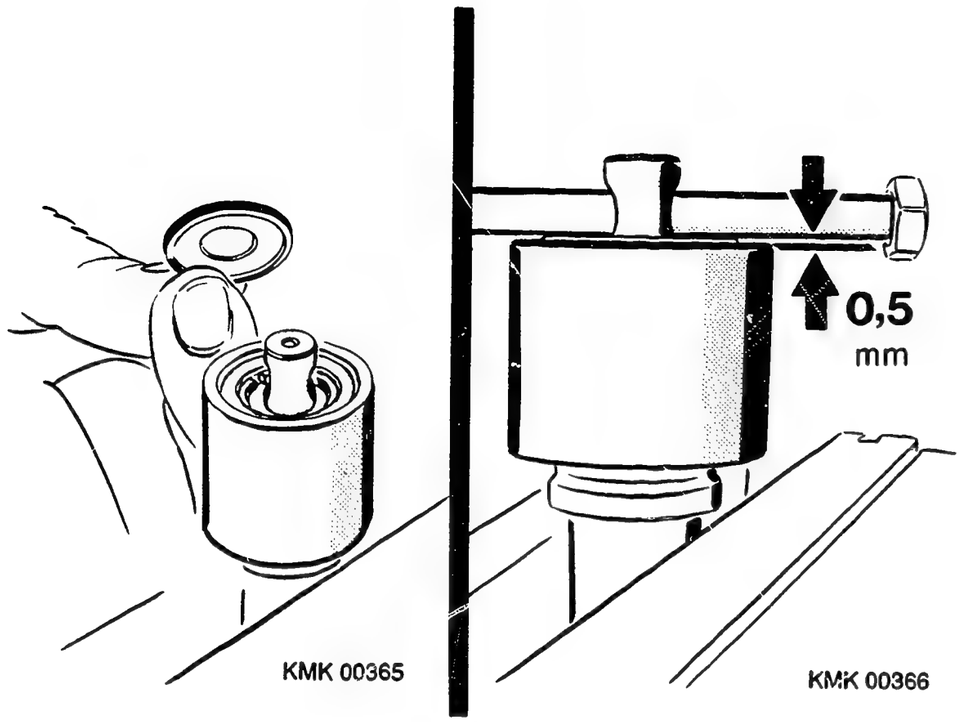
IMPORTANT:
Spring seat is subject to compressive load!

Thoroughly clean all component parts of drive hub.
Then check parts for wear and freedom of movement.



KMK 00364

Assemble drive hub in sequence and secure with
N E W retainer (picture).

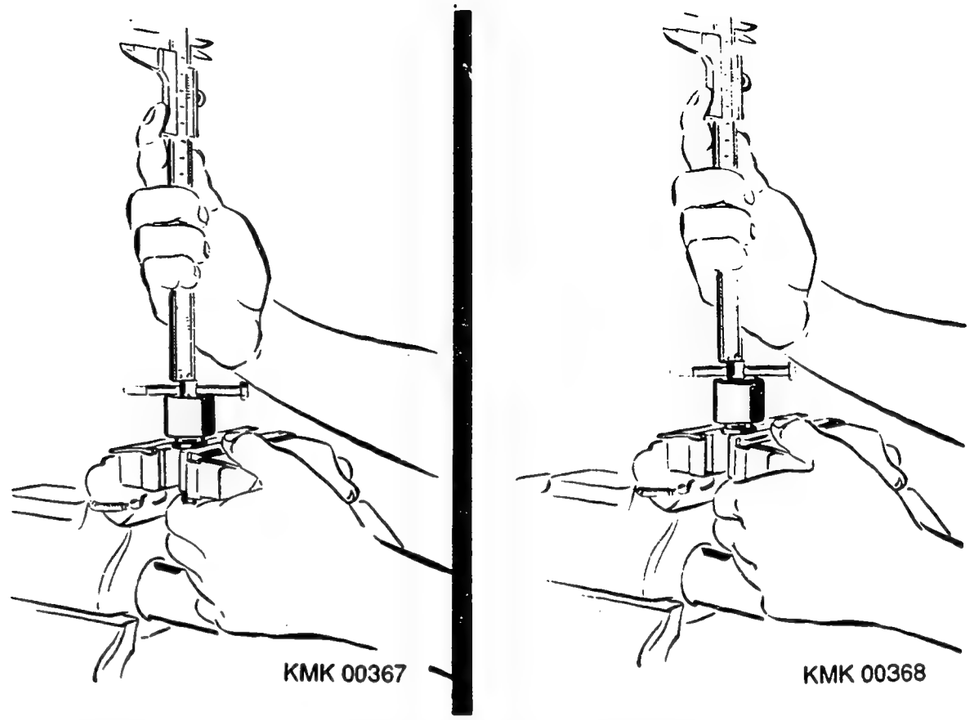


KMK 00365

KMK 00366

Insert cover disc with chamfer facing downwards (picture, right).

Insert coupling pin through shaft. In doing so, there must be a roughly 0.5 mm visible air gap between coupling pin and spring retainer (picture, left).
Air gap is adjusted by replacing cover discs.



KMK 00367

KMK 00368

DETERMINATION OF TORQUE-CONTROL STROKE

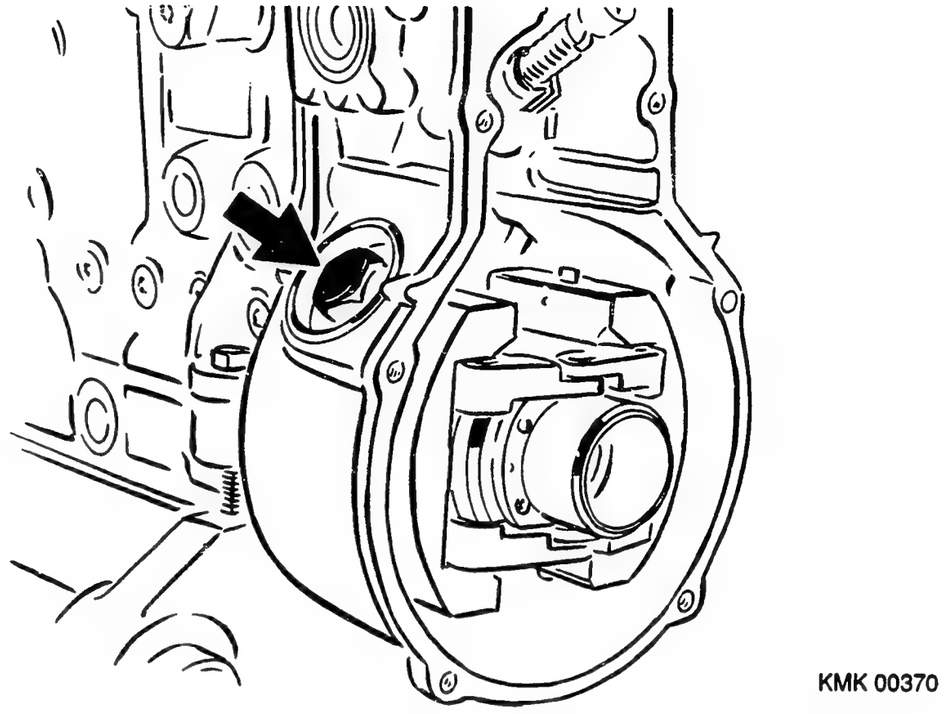
Insert coupling pin through shaft.

In rest position, determine dimension from end face of shaft to cover disc (picture, left). Note down dimension.

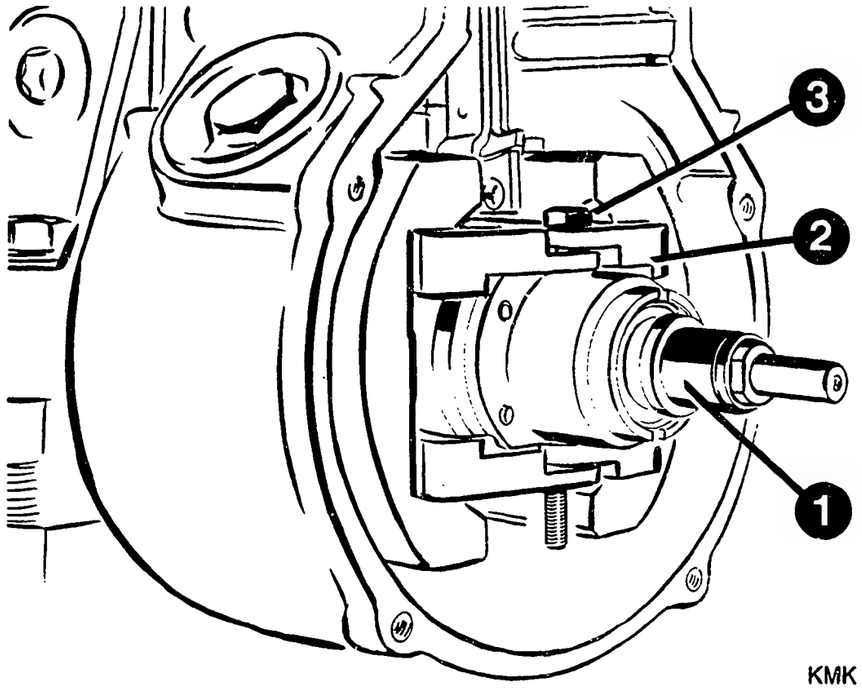
Press shaft onto 1st stop. Determine dimension from end face of shaft to cover disc (picture, right).
Note down dimension.

The difference between the two determined dimensions must be 2 mm.

The spring seat must be replaced if torque-control stroke is not obtained (picture).



Screw screw plug into governor housing and tighten to 30...40 Nm if there is no subsequent adjustment on injection-pump test bench.

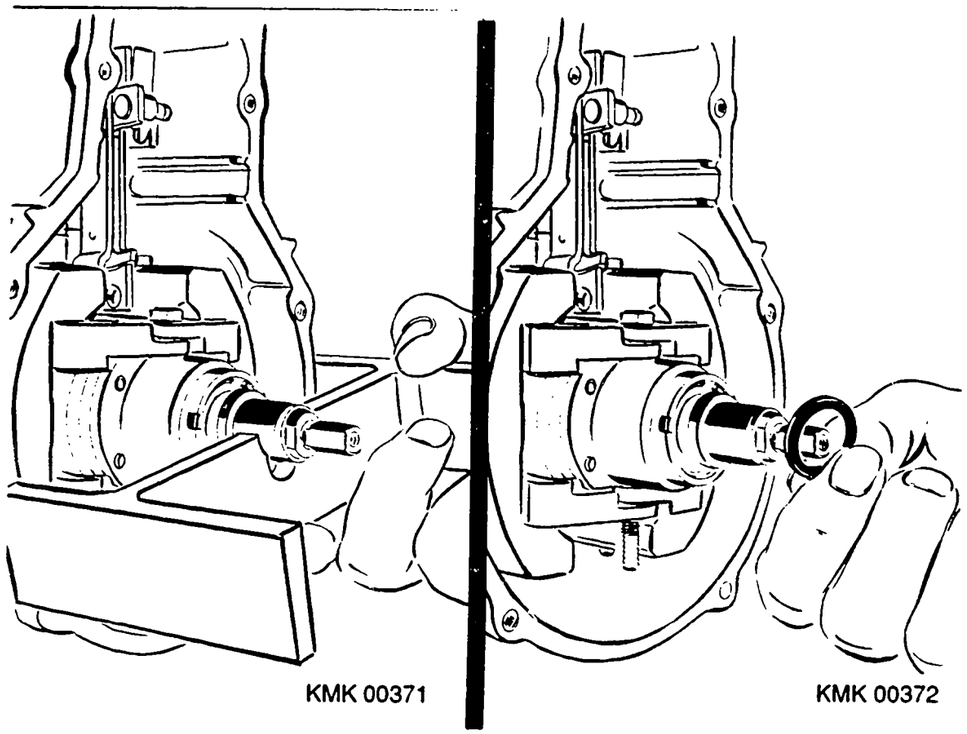


KMK 00388

1 = Drive hub
2 = Governor assembly
3 = Coupling pin

DRIVE-HUB ASSEMBLY

Insert drive hub into governor assembly and position temporarily with the aid of the coupling pin.



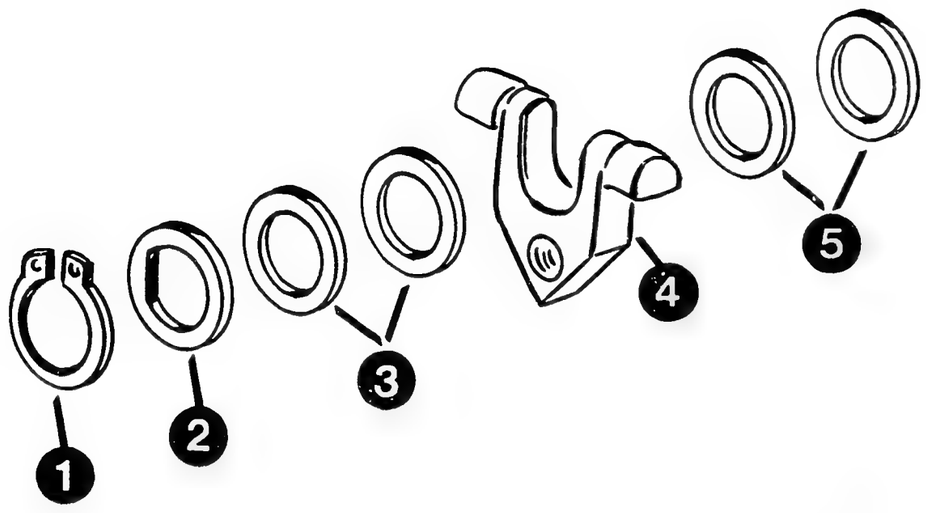
KMK 00371

KMK 00372

Adjustment of universal-joint dimension

Slip measuring frame 1 682 329 083 with s h o r t arms facing pump from underneath onto driving pin (picture, left).

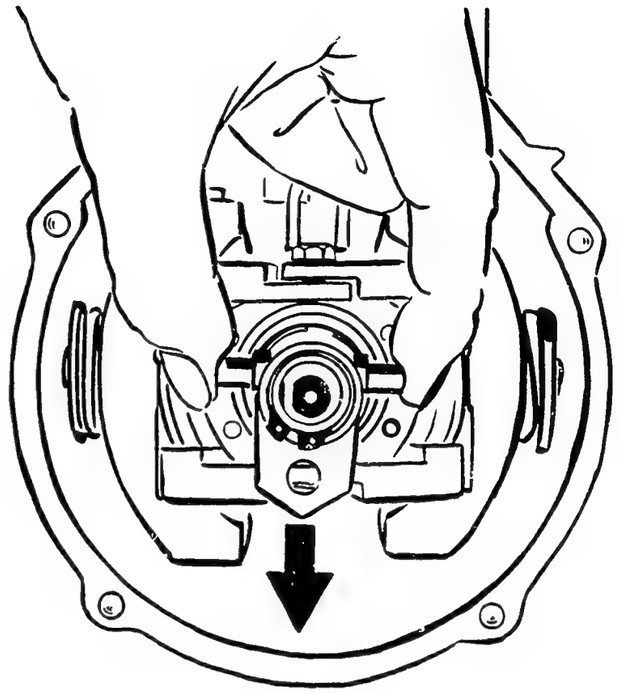
In indicated sequence, slip shims onto driving pin (picture, right) until there is no longer any play between measuring frame and driving pin.



KMK 00362

1 = Retaining ring
2 = Shim
3 = Shims
4 = Universal joint
5 = Shims

Fit universal joint, shims and retaining ring in sequence indicated.

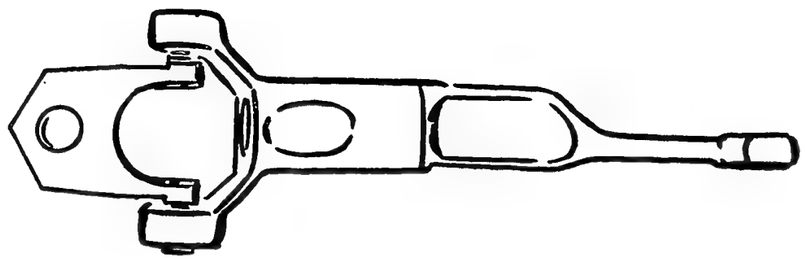


KMK 00373

Check whether universal joint slides downwards without play as a result of its own weight.

If necessary, adjust clearance of link with shims. In doing so, position of universal joint must not be altered.

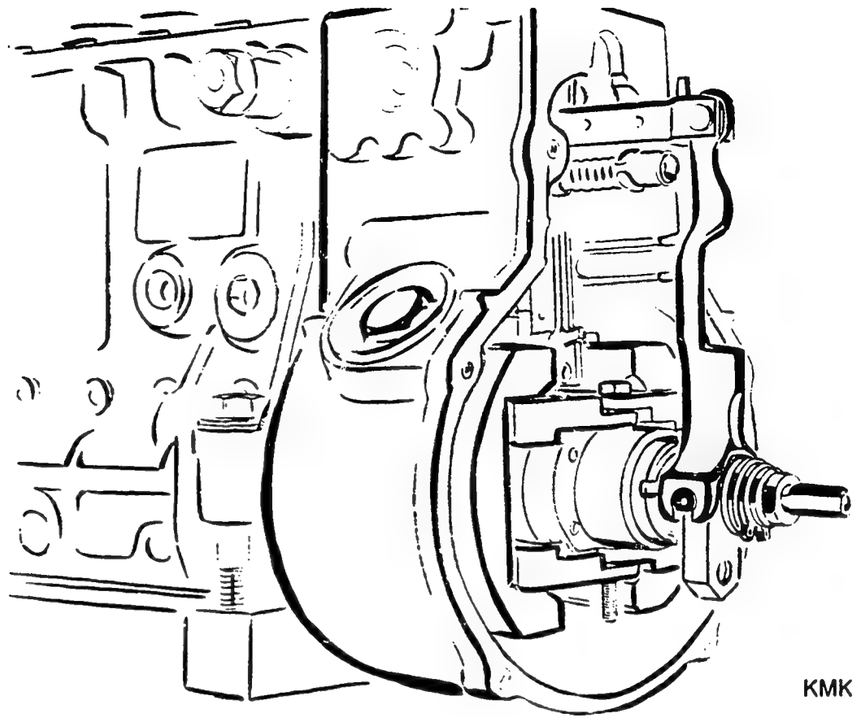
Note:
Following adjustment, there must be at least one shim on either side of the universal joint.



KMK 00374

Fit retaining ring and shims of driving pin and position in sequence.

Engage universal joint in variable-fulcrum lever.

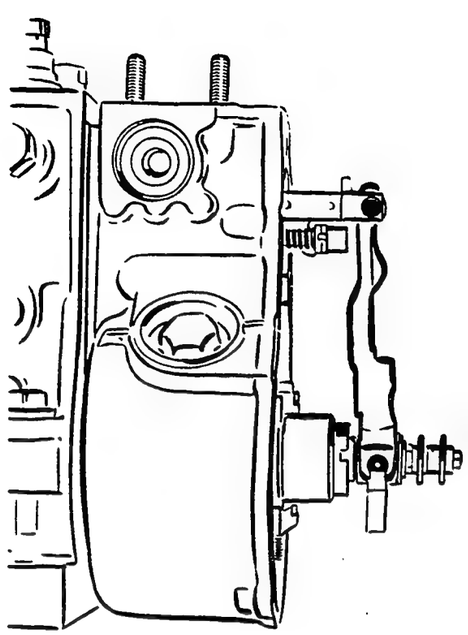


KMK 00375

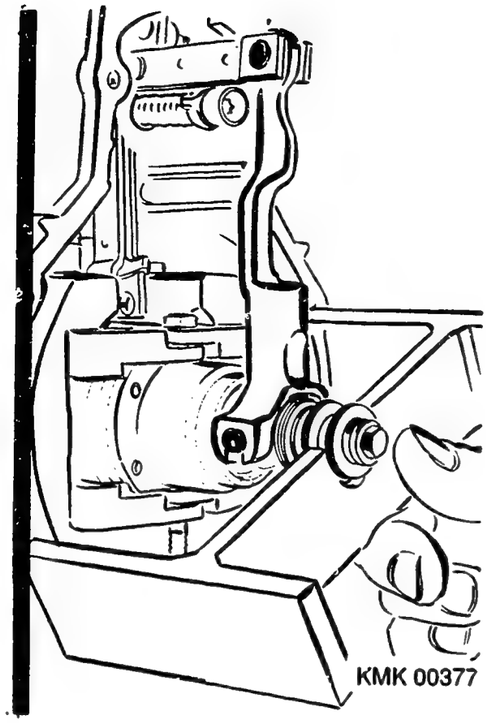
Slip universal joint with variable-fulcrum lever onto driving pin.

Attach variable-fulcrum lever to link fork.

Re-install shims and retaining ring in stated sequence.



KMK 00376



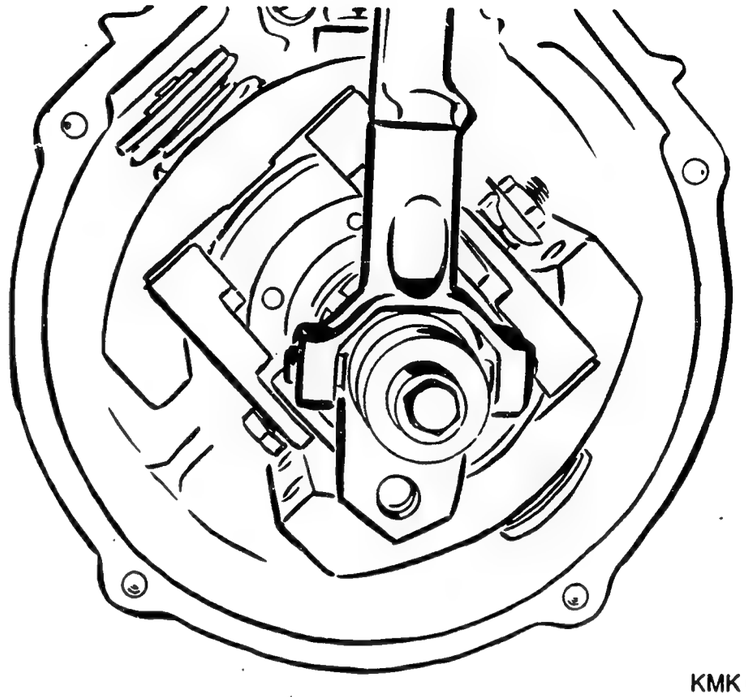
KMK 00377

Adjustment of guide-bushing dimension

Fit shims, guide bushing and micro-encapsulated screw in stated sequence (picture, left).
Tighten micro-encapsulated screw to 4 ... 6 Nm.

Slip measuring frame 1 682 329 083 with l o n g a r m s facing pump from underneath onto guide bushing (picture, right).
Given correct adjustment, the measuring frame must engage in the guide bushing.

Adjust guide-bushing dimension by changing shims such that there is at least one shim on either side of guide bushing.
Axial clearance of guide bushing: 0.05 ... 0.1 mm

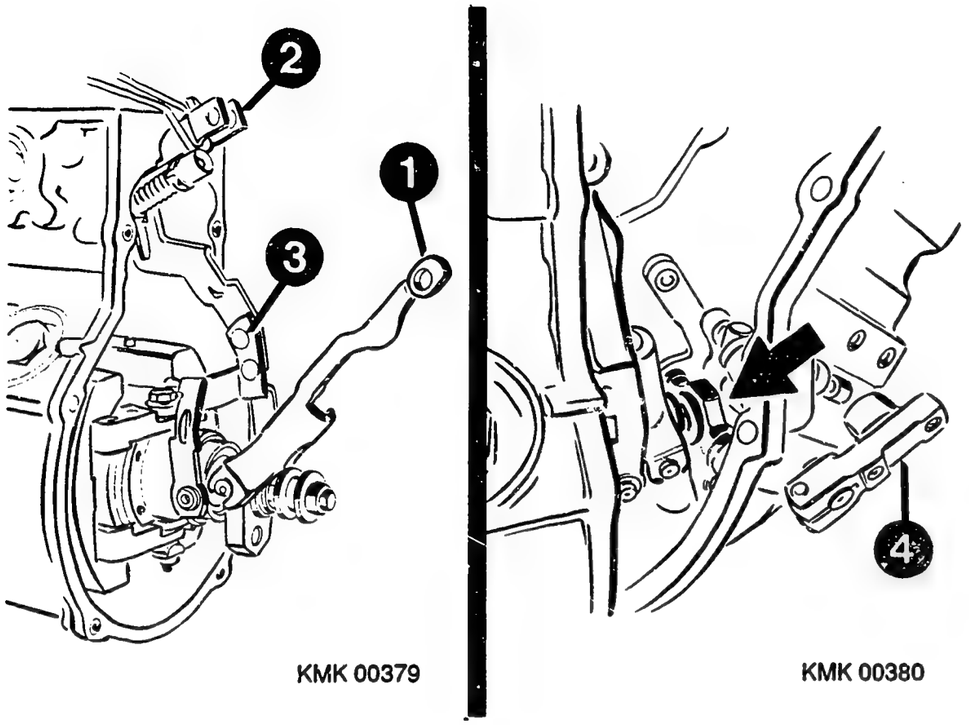


KMK 00378

Attach washer, hexagon nut, tab washer and lock nut in stated sequence to coupling pin and screw on.

Set axial clearance of coupling pin to 0.5...1.0 mm (in doing so press out bell crank outwards).
Tighten hexagon nuts with respect to one another to 6...8 Nm.

Bend tab washer into position over both hexagon nuts.



KMK 00379

KMK 00380

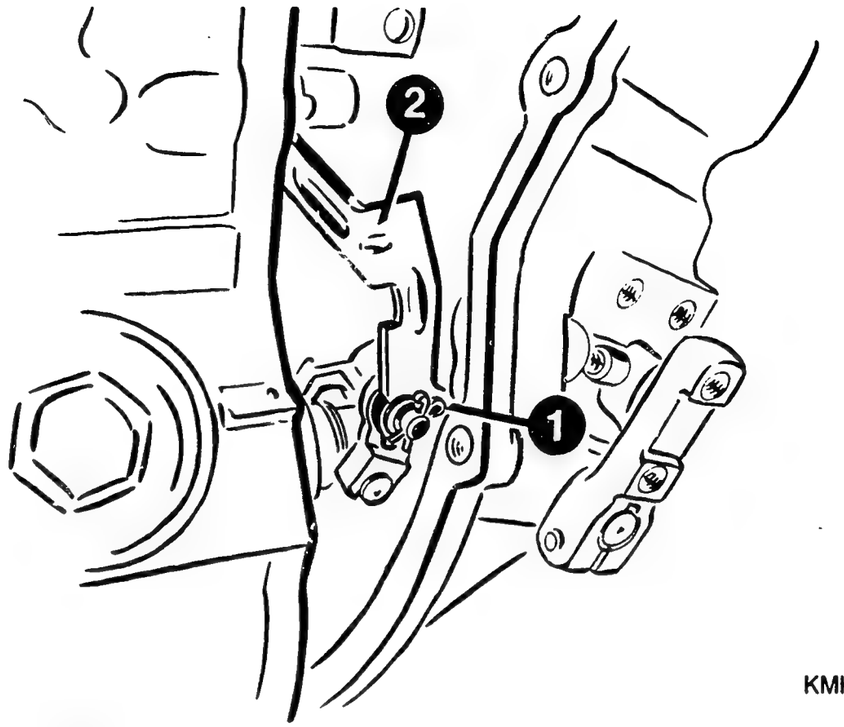
1 = Variable-fulcrum lever
2 = Link fork
3 = Fulcrum lever
4 = Control lever

GOVERNOR-COVER ATTACHMENT

Disconnect variable-fulcrum lever from link fork (picture, left).

Engage link from above in guide bushing (picture, right - arrow).

Position control lever such that it is perpendicular and insert guide block into variable-fulcrum lever with bulge at top.



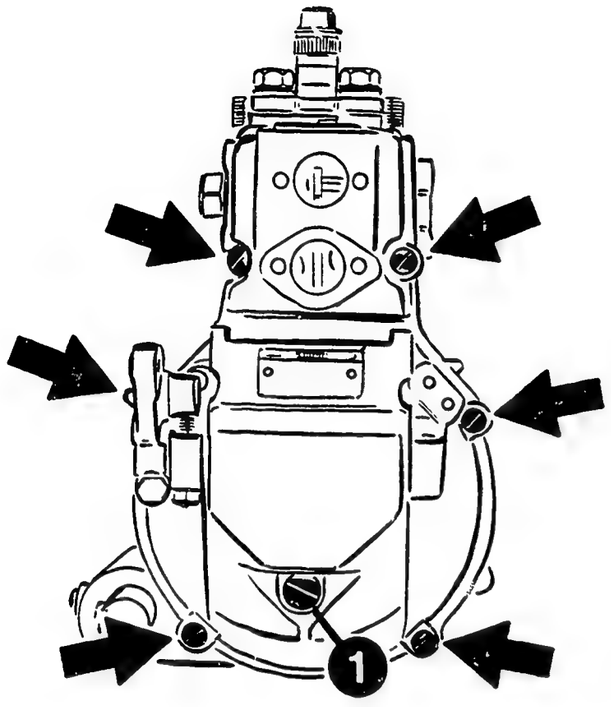
KMK 00308

1 = Retaining spring
2 = Fulcrum lever

Connect fulcrum lever to rocker arm and secure with retaining spring.

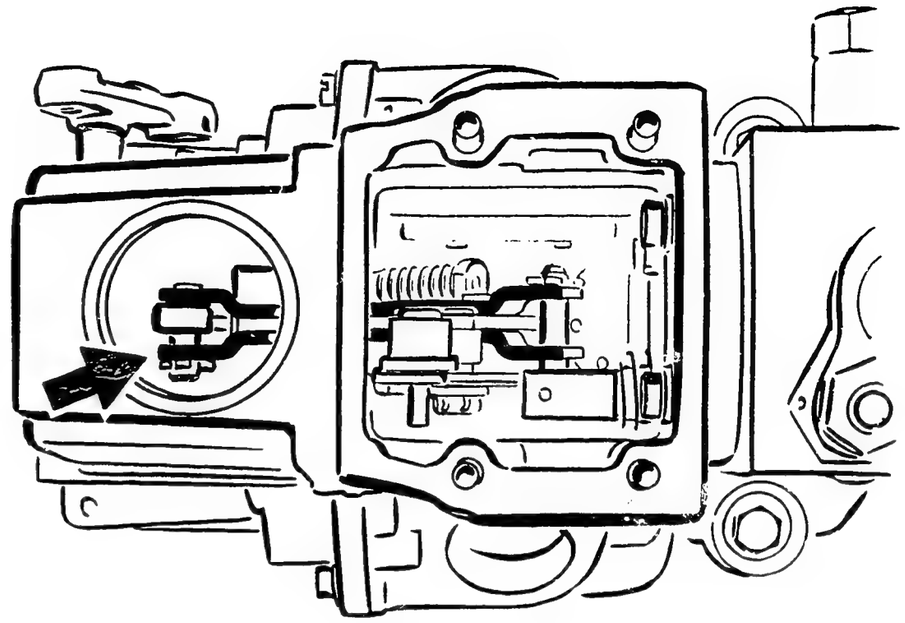
Then connect fulcrum lever to link fork by means of threaded pin and secure with retaining spring.

Note:
Use new seal between governor cover and governor housing.



KMK 00306

1 = Guide pin

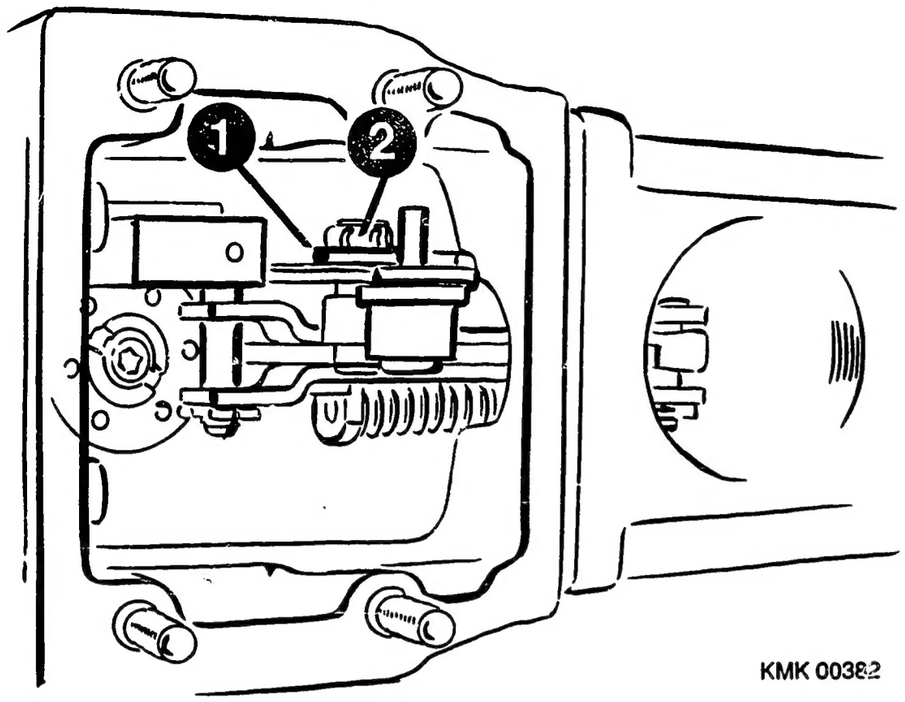


KMK 00381

Slip retaining pin through link fork and variable-fulcrum lever and secure with retaining spring (picture - arrow).

Tighten fastening screws (arrows) to 7...9 Nm.

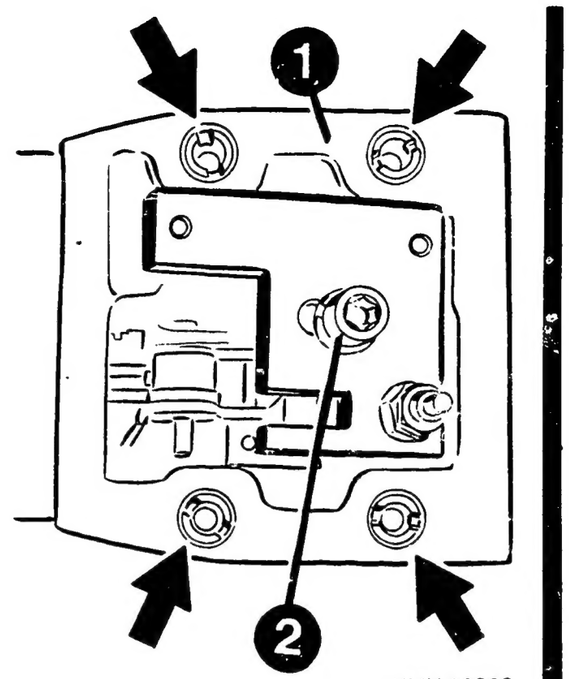
Screw in guide pin with Loctite and tighten to 20...25 Nm.



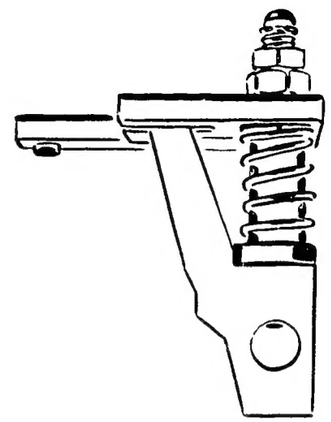
KMK 00382

1 = Shim
2 = Retaining clip

Slip shim onto fulcrum-lever guide pin and secure with retaining clip.



KMK 00383

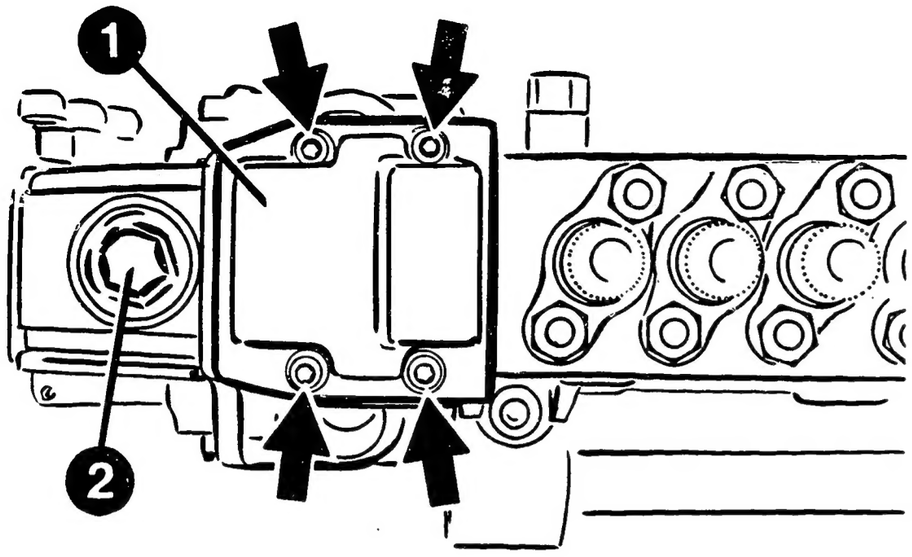


KMK 00384

1 = Intermediate housing
2 = Hexagon-socket-head cap screw

Place intermediate housing on governor housing and tighten threaded sleeves (arrows) to 4...6 Nm (picture, left).

Fit full-load stop (picture, right) and tighten hexagon-socket-head cap screw to 5...7 Nm.

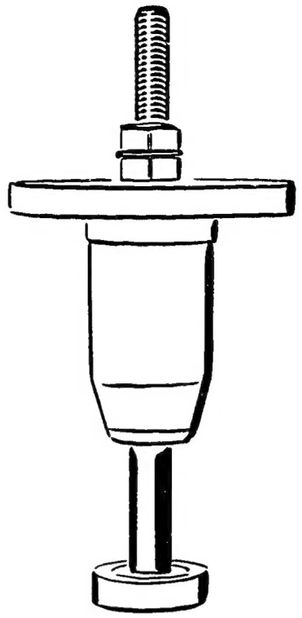


KMK 00385

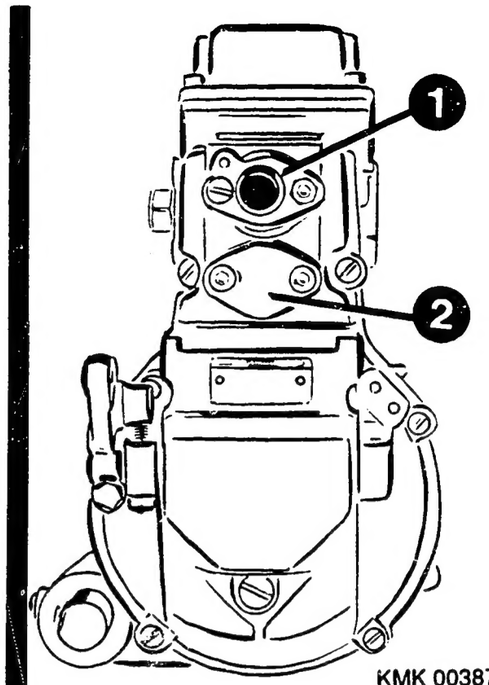
1 = Closing cover
2 = Screw plug

Mount closing cover of full-load stop and tighten fastening screws (arrows) to 5...7 Nm.

Tighten screw plug to 30...40 Nm.



KMK 00386



KMK 00387

1 = Protective cap
2 = Closing cover

Insert control-rod stop (picture, left) for limiting starting fuel delivery.

Fit protective cap and tighten fastening screws as follows:
* Cylinder-head screw: 4...6 Nm
* Break-off screw: 2...3.Nm

Note:
Do not break off screw until adjustment on injection-pump test bench has been completed.

Fit closing cover and tighten to 7...9 Nm

CHECKING FOR LEAKS IN CAMSHAFT, SPRING AND GOVERNOR CHAMBERS

Completely assemble fuel-injection pump.

Apply the compressed air required for leak testing to the camshaft chamber of the pump at a suitable location (e.g. oil inspection hole).

Immerse fuel-injection pump perpendicularly into test bath.

TEST DURATION AND TEST PRESSURE:

P-pump: 7 minutes at 1.5 bar, followed by
1 minute at 0.5 bar

Then establish by way of visual inspection whether all sealing surfaces, screw connections, seal rings and end covers at housing and cover are leakproof.
There must be no air bubbles to be seen.

In order to preclude the possibility of skin irritation, apply hand cream to hands beforehand and wash in soap and water after completion of test.
Wear rubber gloves if at all possible.

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